

VK 215

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MARINE DEPARTMENT REGULATIONS



For the Seagoing Personnel

STANDARD OIL COMPANY

(Incorporated in New Jersey)



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*Manager, Marine Department,
Standard Oil Co. (N. J.),
26 Broadway,
New York.*

Dear Sir:—

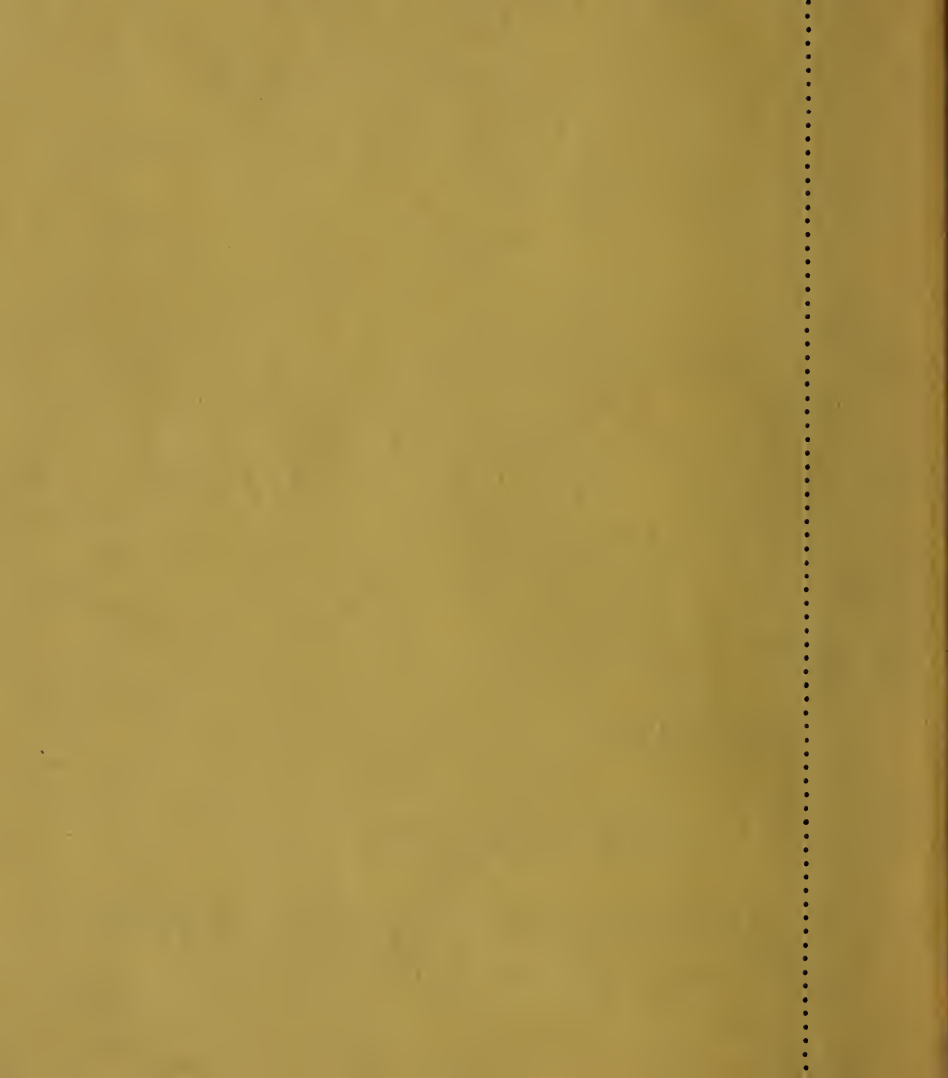
*This is to acknowledge receipt of copy
No. 15 of the Marine Department
Regulations for the Fleet of The Standard
Oil Co. (N. J.).*

Signed

Vessel

.....192

*This receipt is to be signed and returned
promptly by the recipient of this book.*



PREFACE

The "Marine Department Regulations" are for the information and guidance of Masters and Officers in the service of this Company in routine matters and under usual conditions.

Masters and officers shall familiarize themselves with the contents of this book in general and refer to it frequently for guidance in the ordinary course of operation.

Nothing in these regulations relieves the Captain or Officers of their responsibilities as defined by law or from the exercise of proper judgment in an emergency or under unusual or extraordinary conditions rendering them inapplicable.

It is to be understood that the word "Officers," wherever used in these instructions or in the business correspondence of the Standard Oil Co. (N. J.) Marine Department, is intended to include all men holding licenses.

Whenever a periodical or routine inspection or drill required by these instructions is carried out, the fact shall be duly noted in the Deck Log.

Telegrams to the New York office from United States ports shall be addressed to R. L. Hague, 26 Broadway, New York.

Cables to the New York office from foreign ports shall be addressed to "Stan-ship," New York.

Wireless messages to the New York office shall be addressed to "Stan-ship," New York.

Letters to the New York office shall be addressed to:

Standard Oil Company (New Jersey),
Marine Department,
26 Broadway,
New York, N. Y.

Inspection Service. The Master is responsible for the application of all rules and regulations of the U. S. Steamboat Inspection Service. Masters must have on board the latest instructions in this regard, and ignorance will not be accepted as an excuse for non-compliance.

8. Economy and protection of property. The Master shall exercise strict economy in the use of all supplies and assure himself that there is no deterioration of the vessel or equipment due to carelessness or neglect.

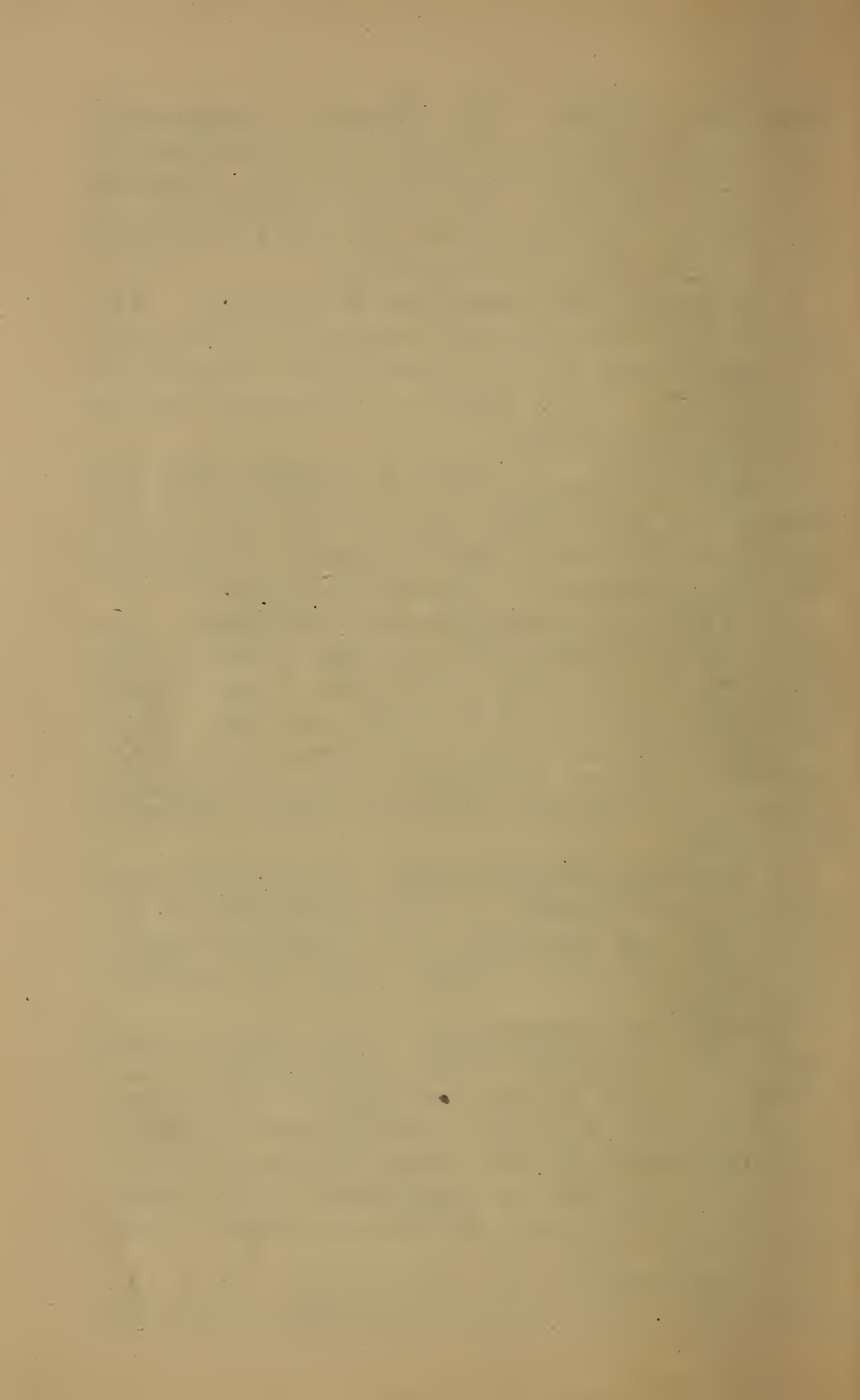
9. Inspections. In order to comply with the provisions of paragraph 8 it is expected that the Master will make inspections of the ship as frequently as his other duties permit, in company with his subordinates directly responsible.

10. Welfare of personnel and sanitation. The Master shall be responsible for the welfare of the personnel on his vessel and shall inspect daily the living quarters of the crew and the galley, and insist upon cleanliness and observance of the necessary sanitary precautions, to guard against disease or its spread, vermin, or other nuisances due to filth.

11. Grievances of personnel. The Master shall afford an opportunity to ship's personnel to lay before him any grievances, and shall investigate each case and take prompt steps to equitably adjust same.

12. Cases of misconduct. The Master shall require his officers or other subordinates in authority to report all cases of neglect, carelessness in performance of duty or misconduct observed, and shall impartially investigate both sides of any controversy as soon as practicable after occurrence, rendering a just decision according to the merits of the case.

13. Punishment. No punishment shall be meted out to any of ship's personnel except by



the Master, and then only after personal investigation as set forth in paragraph twelve.

14. Punishment entered in log. Details of misconduct and penalties incurred shall be fully and clearly entered in the ship's official log.

15. Responsibility for records. The Master is responsible for the proper keeping of all records, and shall require his subordinates from time to time to produce ship's records kept by them for his inspection.

16. Investigation of accidents. In case of accident involving injury to vessel, personnel, cargo or equipment, or injury to other vessel, its personnel, cargo or equipment, or to property ashore, the Master shall, in addition to entering protest, etc., make a personal investigation and enter a brief summary of the facts in the ship's log, including the names and addresses of all witnesses, and a brief description of the damage sustained by all concerned. The items in the log book to be confined to known facts and shall not deal with opinions or presumption of facts. He shall also report the result of his investigation by wire to R. L. Hague, 26 Broadway, New York, N. Y., followed by a letter giving all details, and make necessary report to the U. S. Steamboat Inspection Service.

17. Medicine chest. The Master shall be the custodian of the medicine chest, and all its contents shall be dispensed under his personal supervision. An entry shall be made in the Medical Log Abstract in every case where a member of the crew applies for treatment. If case is serious a report of illness and/or personal injury shall be filled out in addition and mailed to the Marine Department.

18. Medical assistance. The Master is authorized to obtain the services of a doctor whenever

he deems it necessary, thru the Company's agent when possible.

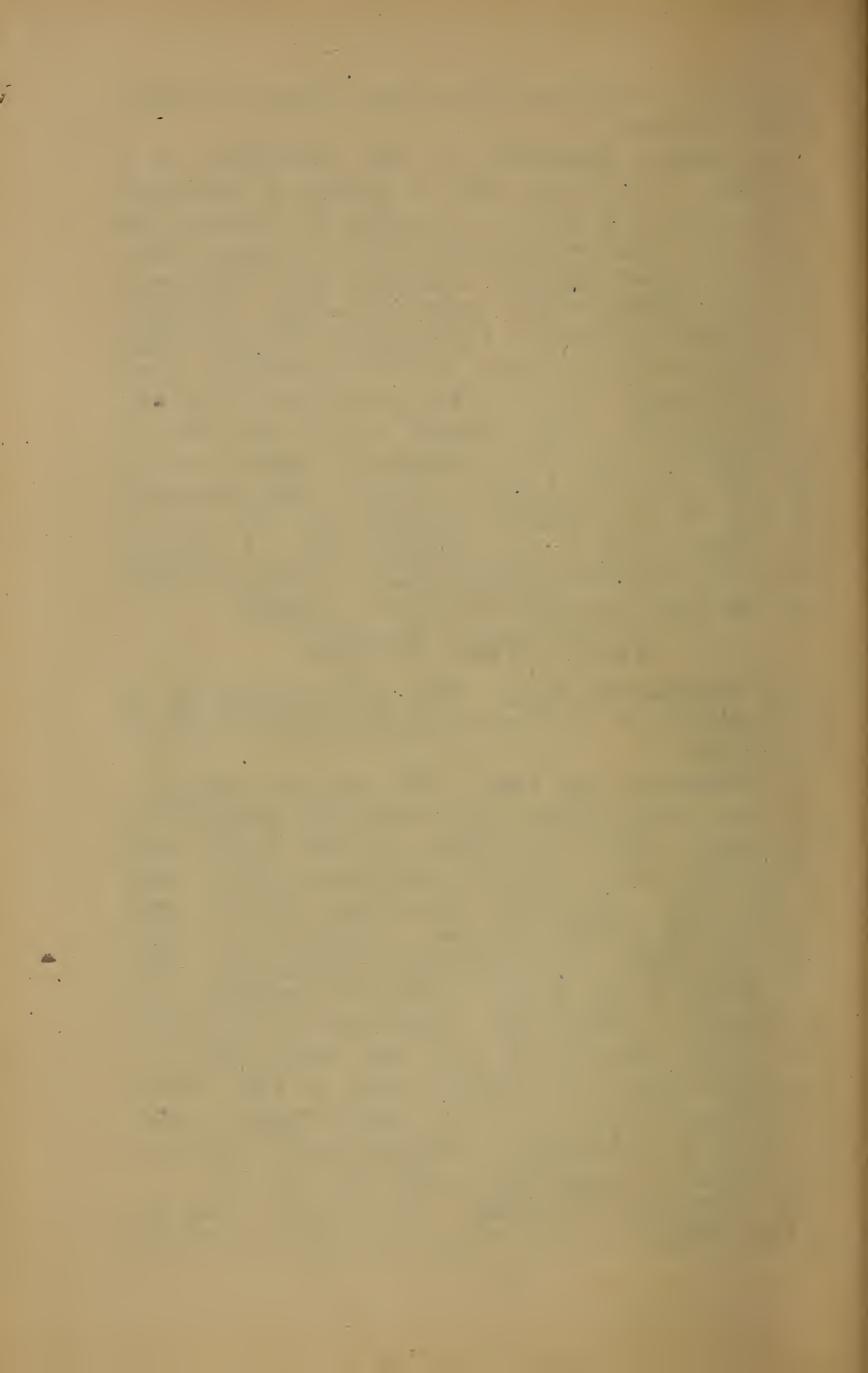
19. Marine hospitals. If the condition of a member of the crew, due to illness or accident, is too serious to permit of caring for him on the vessel, he shall be transferred to a marine hospital, or other suitable hospital, for treatment, and the Master shall make necessary arrangements with the proper Government officials when in a United States port, and the American Consul in a foreign port, for the subsistence and pay of the invalid. This should always be done in consultation with the Company's agent and a full and complete report made to the Standard Oil Co. (N. J.), Marine Department, 26 Broadway, New York, N. Y., immediately. A patient sent to a marine hospital shall be given a certificate on form provided for this purpose.

NAVIGATION DUTIES

20. Paramount duty. The safe navigation of the vessel is at all times the paramount duty of the Master.

21. Rules of the road. The Master shall require all deck officers to familiarize themselves thoroughly with the "Rules of the Road" and shall insist upon a strict compliance with them at all times, especially regarding whistles and other sound signals and the display of required lights at night. In familiarizing themselves with the "Rules of the Road" it will be necessary for the officers to study and understand the application of the rules in the way that courts have interpreted them. A careful study of the "Rules of the Road at Sea" by W. H. LaBoyteaux, a copy of which is on board, or other standard books on the subject, is suggested to all deck officers.

22. Presence on bridge. The Master shall be on the bridge in person when entering and leaving



port, when in restricted waters, when in thick weather, when other vessels are in the vicinity, and at any time when the vessel is especially liable to danger.

23. Weather conditions. The Master shall require the Watch Officer to report to him any marked change in the weather, or sudden variation of the barometric pressure or temperature.

24. Course and speed. The Master shall set a course clear of all dangers, having regard for the type of vessel and the season of the year, and proceed at the maximum speed practicable, having due regard for the weather and other conditions. In this connection it is desired to emphasize that **safety must be the first consideration**, and speed, while very desirable and important, shall always be considered as secondary to safety.

25. Change of course and speed. No one except the Master shall be permitted to change the course or speed, except in an emergency, in which case the Master shall immediately be informed of the change and the reason therefor.

26. Speed in thick weather. The Master shall slow to a moderate speed in thick weather in strict observance of Article XVI of the "Rules of the Road."

27. Thick weather in restricted waters. When in restricted waters in thick weather the Master shall navigate his vessel with utmost caution, and if in doubt of his position shall stop, and, if necessary, anchor until his position can be accurately verified.

28. Use of lead. The Master shall cause soundings to be taken with the hand lead when entering or leaving port and when in restricted water.

29. Deep-sea lead and sounding machine. When approaching land in thick weather night or day or at any time when the ship's position is not

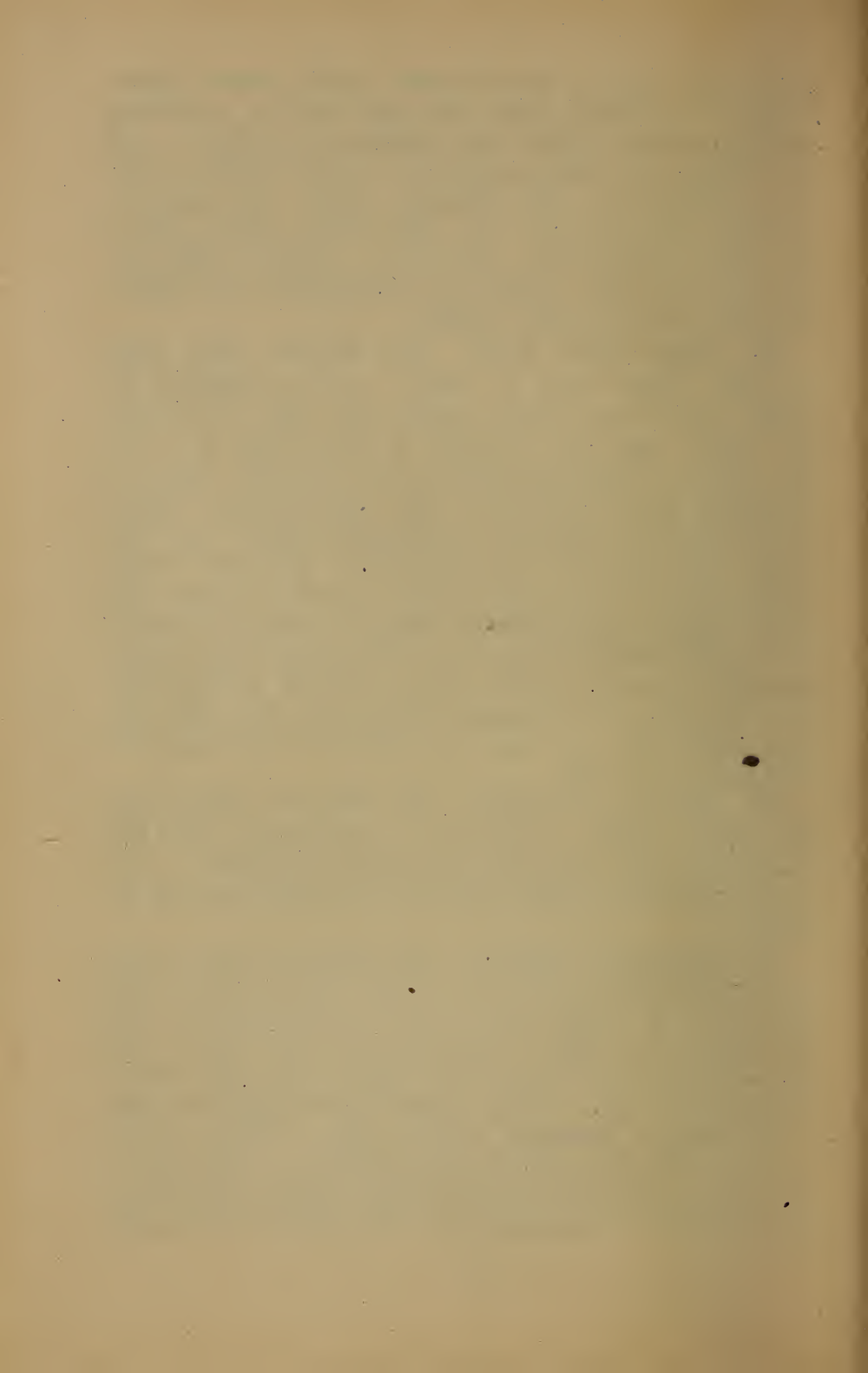
definitely known the Master shall cause soundings to be taken with deep-sea lead or sounding machine and verify his position on chart. All soundings and characteristics of the bottom shall be recorded in the Bridge Log. In case of marked discrepancies he shall slow down, and if in shoal water turn around or anchor until his position can be verified by landmarks or observations of heavenly bodies.

30. Night order book. The Master shall keep a night order book in which, before retiring, he shall write the course, speed, the time of change of course and new course, in case there be any, the name, characteristics and probable time of sighting and bearing of any navigational lights expected to be sighted during the night, and any other information or precaution that he deems pertinent or necessary for his watch officers. He shall require each watch officer to read and initial the night order book, and shall keep it as a permanent record on the ship. Verbal orders may be forgotten or misunderstood, and for this reason shall not be used in matters involving the safety of the ship.

31. Setting of clocks. The Master shall cause all ship's clocks to be set in accordance with his judgment for computed change of longitude. It is very important that all clocks on board are in accord.

32. Record of sights. The Master shall cause a navigational work-book to be kept, which shall be a record of all sights and computations used in fixing the ship's position, and this book shall be available for inspection when required, and be retained as part of the ship's permanent records.

33. Ship's position under way. When under way the Master shall fix the position of the ship at 8 A. M., noon, and 8 P. M. and at such other times as he deems it necessary for the safety of the ship.



34. Chart in custody of watch officer. The Master shall require the officer of the watch to have a chart corrected up to date in his custody, on which shall be marked the ship's course and the ship's position according to the latest data available.

35. Pilot does not relieve Master of responsibility. The Master may take a pilot whenever required or desirable, but this in no way relieves the Master of his responsibility for the safety of the ship, and he shall continue to navigate by bearings or other means available and take all proper steps to safeguard the vessel under his command.

36. Chronometer corrections. The Master shall cause the chronometers to be compared with routine time signals frequently. In this connection the radio time signals will be of invaluable assistance, and are to be used whenever vessel is in receiving distance of a shore station sending out the time signal.

37. Chronometer record book. A chronometer record book shall be kept in which shall be recorded daily the maximum and minimum temperature, the comparisons when taken, the error on G. M. T., and the rates of each chronometer. This book to be retained as part of the ship's permanent records.

38. Winding of chronometer. The Master shall cause the chronometers to be wound daily at 8 A. M., and require the fact to be reported to him.

39. Navigational equipment. The Master shall require all deck officers to have an efficient sextant and shall assure himself that the following equipment is on board in perfect condition and up to date at all times:

Two or more reliable chronometers.

Two or more reliable compasses in compen-

sating binnacles, for which there are accurate deviation tables.

One or more azimuth circles, to be fitted to compass.

Two or more useful tables, azimuth tables, nautical almanacs and practical books on navigation.

Two or more parallel rulers, dividers, compasses.

A complete portfolio of charts covering the trade in which the vessel is engaged (corrected up to date).

Coast pilots, light list and tide tables (corrected up to date).

One international signal code book.

A complete up-to-date file of "Notices to Mariners."

A complete allowance of hand lead and lines accurately marked.

Two or more deep-sea leads and lines accurately marked.

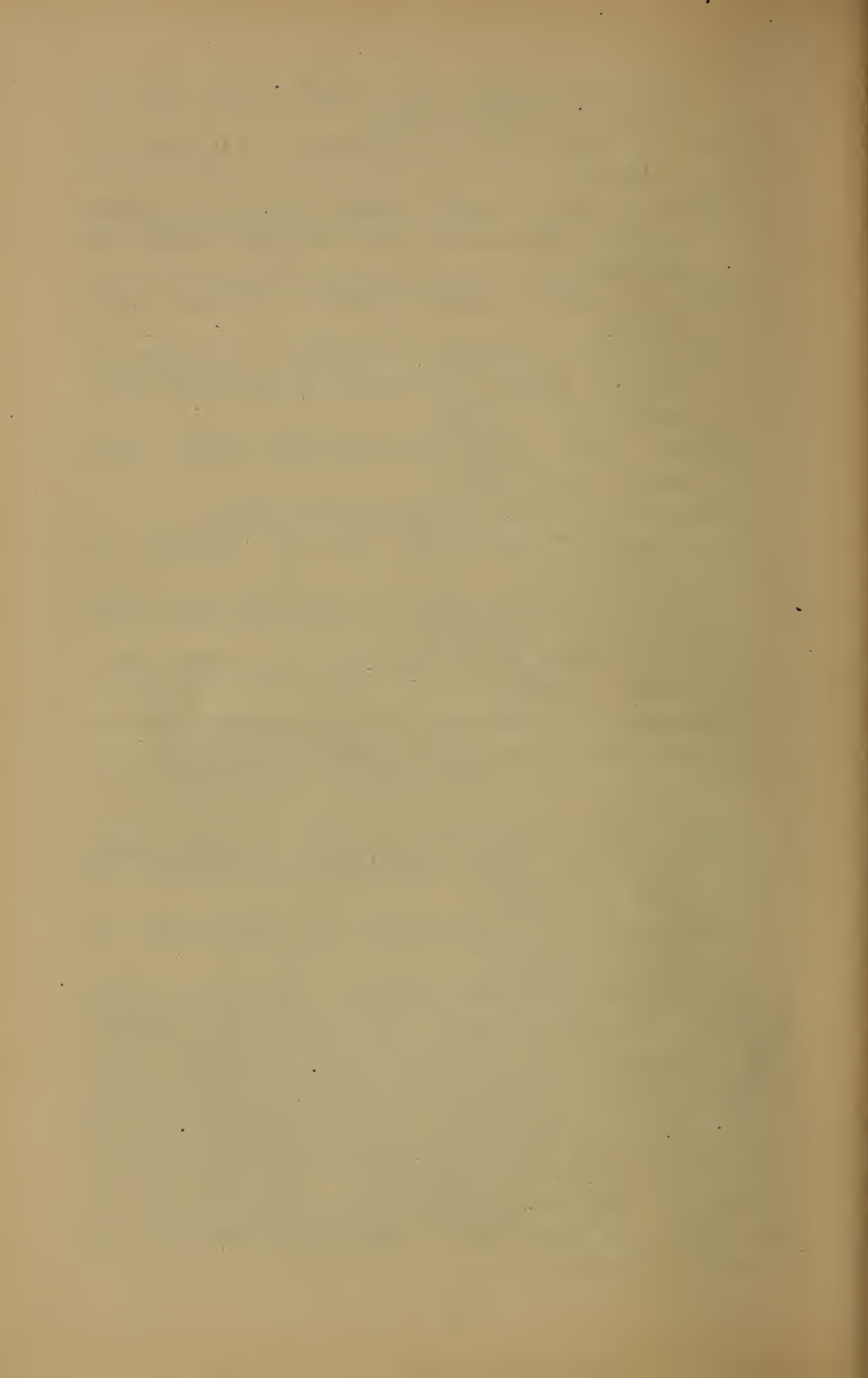
One deep-sea sounding machine and sufficient number of glasses in good condition.

Two or more patent logs, accurately calibrated.

Submarine signalling device, signal flags, radio and other signalling apparatus in good condition.

Allowance of binoculars and telescopes in good condition.

40. Wireless direction finders. The use of the wireless direction finders and submarine signalling apparatus is commended to Masters as a supplementary means of navigation, but it should in no case be considered as a substitute for the use of lead and sounding machine, or other customary methods of navigation. The use of this apparatus does not effect the requirements of the "Rules of the Road" regarding speed in fog or thick weather.



DUTIES ON LEAVING PORT

41. Seaworthiness. The Master shall assure himself that his vessel is in all respects seaworthy before sailing.

42. Ample supplies. The Master shall require that sufficient supplies of all kinds are on board before sailing.

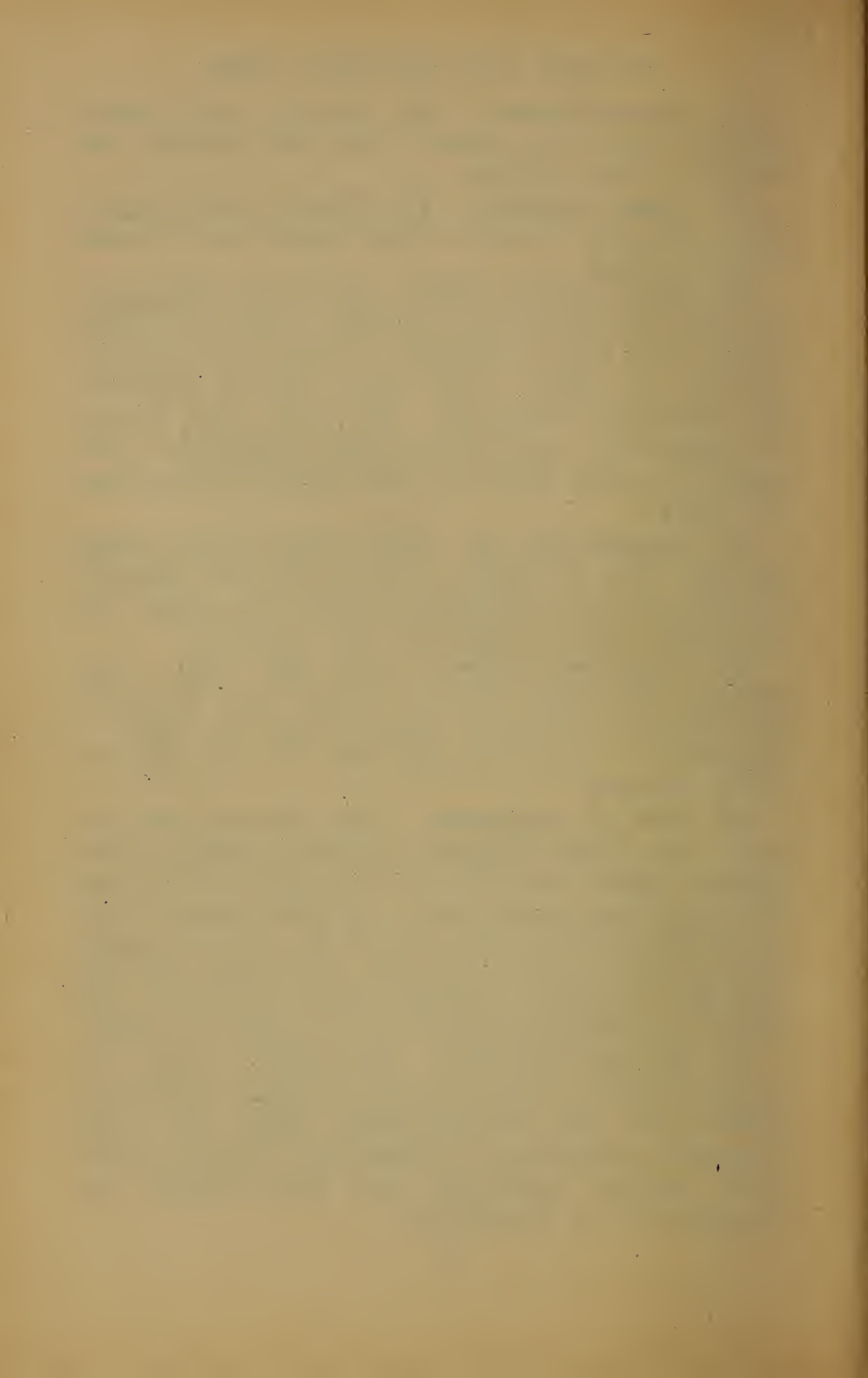
43. Notify Chief Officer and Chief Engineer. The Master shall, when possible, notify the Chief Officer and Chief Engineer at least 24 hours in advance of sailing, that they may be prepared for scheduled departure, and in no case, except in emergency, should the Chief Engineer be required to raise steam in cold boilers in less than 12 hours.

44. Secured for sea. The Master shall assure himself that all parts of the ship are properly secured for sea, including anchors and cargo, and protected from damage by the elements.

45. Clearance papers, tugs and pilot. The Master shall take steps in ample time to obtain all necessary clearance papers, tugs and pilot, if required, so that the ship will not be unnecessarily delayed.

46. Test of equipment. The Master shall require the main engines, steering engine, telegraph, whistle and siren to be tested a half hour before getting under way; a report made to him (the Master) that they are O. K., and an appropriate entry made in the log; and assure himself that the sounding machine, leads, lead lines and other essential equipment are in good condition.

47. Weather forecasts. The Master shall acquaint himself with the latest weather forecasts, either from the Hydrographic Office, the daily papers or otherwise, in order that he may anticipate weather conditions and latest reports on obstructions to navigation.



48. Hydrographic Office reports. The Master shall obtain the latest hydrographic charts and meteorological reports from the Hydrographic Office before sailing, as well as a supply of their forms, which shall be carefully filled out and returned promptly to the Hydrographic Office.

ARRIVING IN PORT

49. Notify agent. At least 24 hours before arrival, the Master shall radio the Marine Department at New York, or the agent at out-ports, stating date and expected time of arrival, nature and disposition of cargo, draft forward and aft, brief summary of repairs required, other requirements not readily obtained, tugs desired, if any, amount and denomination of cash required to pay off crew, in order that there will be no unnecessary delay in port.

50. Preparations for port. The Master shall cause necessary preparations for port to be made in advance, in order that ship will not delay docking, connecting hose, etc.

51. Stage of tide. The Master shall determine what the tide will be upon arrival, and in case it is unfavorable for probable time of arrival, shall make every proper effort to increase speed so as to reach port at the proper stage of the tide.

52. Secure main engines and helm. The Master shall not permit the main engines, helm or main boilers to be secured until he is satisfied that the vessel is safely anchored or made fast to dock, having due regard for the weather and the amount of shelter afforded by the harbor.

53. Expedite disposition of cargo. The Master shall require all persons to expedite the loading or discharging of cargo and other business in port, to avoid delay of vessel.

54. Set time of sailing. The Master shall,

upon arrival, or as soon thereafter as practicable, set the time of sailing, and notify all concerned, in order that necessary preparations may be made in time so that work in port may be intelligently laid out by his subordinates.

55. Overhaul of machinery and boilers. The Master shall especially notify the Chief Engineer of the duration of stay in port, in order that necessary overhaul may be performed within that time.

56. Leave. Before granting shore leave to officers and men the Master shall cause them to be notified of the sailing hour of the vessel.

SHIP'S BUSINESS

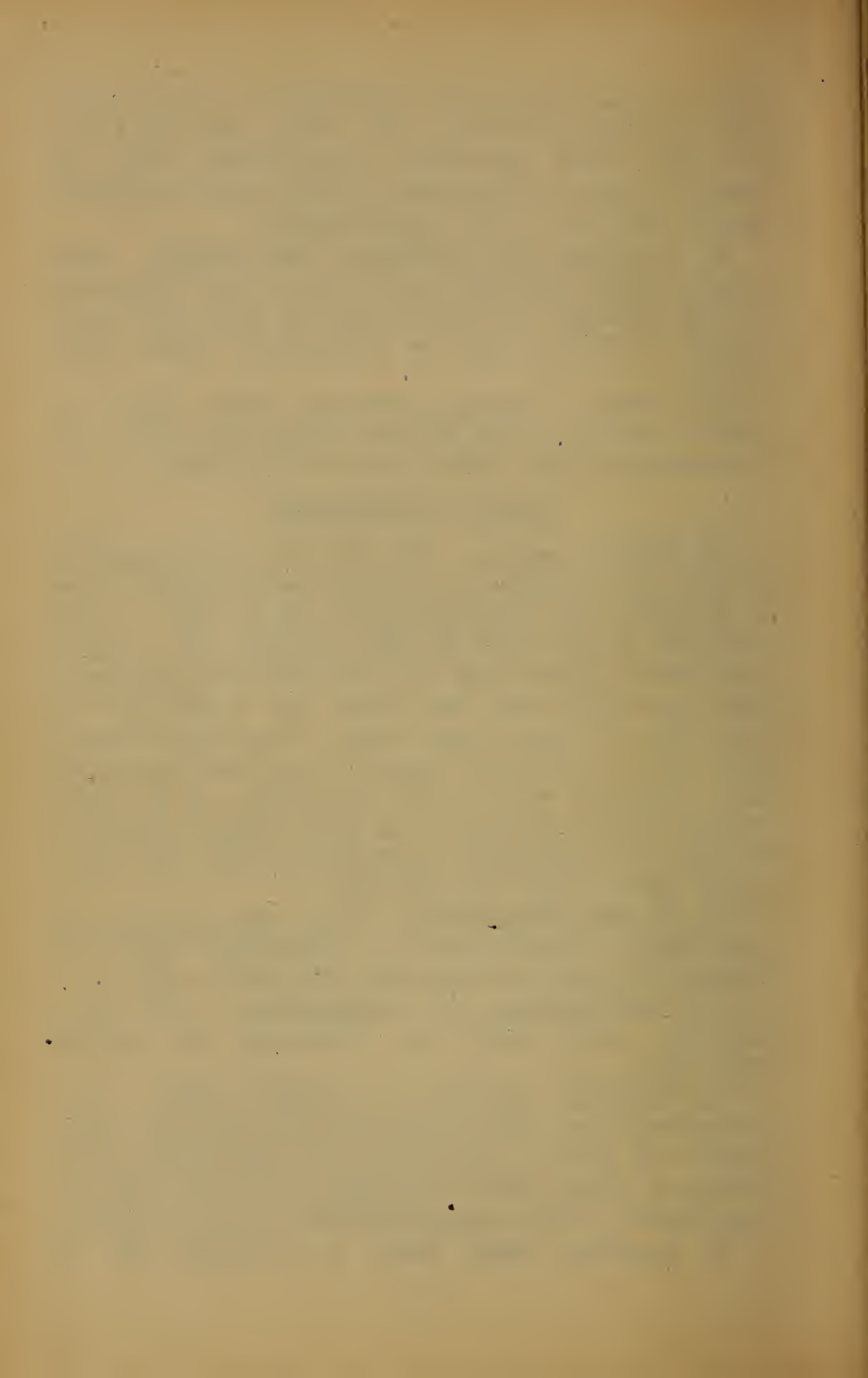
57. Ship's papers. The Master is responsible for all ship's papers and shall exercise great care in keeping all correspondence up to date. It is his duty to see that all logs, reports, etc., whatever their nature may be, are made out promptly and correctly, and that they are forwarded to the office at the proper time. Particular attention shall be given to reports covering casualties and accidents and to the recording of all incidents relative thereto. All new officers shall immediately familiarize themselves with all company orders and instructions.

58. Marine Department. The cable address of our Marine Department is "Stanship," and this should be used in addressing business cables.

59. Confirmation of dispatches. All dispatches sent shall be confirmed by letter promptly.

60. Wireless operator as ship's clerk. Arrangement has been made to pay wireless operators an extra allowance for performing the duties of ship's clerk, but this in no way relieves the Master of his responsibilities in the premises.

61. Keeping ship's files. A complete file of



business letters or other communications received and copies of those sent by the ship shall be carefully kept in files provided for the purpose.

62. Records of paramount importance. The following records are of paramount importance and shall be kept in the Master's custody:

Certificate of Registry or Enrollment	Tonnage Certificates for Panama Canal and Suez Canal
Ship's Articles	Official Log
Bills of Lading	Local Bill of Health
Clearance Papers	Manifest
Crew List	U. S. Bill of Health
Charter Party (if any)	Store List
Classification Society's Certificates for Hull, Engines and Boilers, Anchors and Chains	U. S. Unexpired Inspection Certificate

63. Bill of Health. The Master is required to obtain a Bill of Health before leaving port. If proceeding from the United States to a foreign port, a Consular Bill of Health is sometimes required. When proceeding from a foreign port to a United States port, a Bill of Health in duplicate must be obtained from the American Consul, and a supplementary Bill of Health in duplicate obtained from the American Consul at each subsequent port of call.

64. Bills of Lading. The Master shall under no circumstances sign bills of lading before the cargo is actually on board his vessel or if dated previous to the cargo's being laden aboard.

In Mexican ports it is customary to make out bills of lading for estimated quantities in order to avoid delay of the vessel, and it is in order for Masters to sign such bills of lading.

Our interests are fully safeguarded in respect to cargoes loaded in Mexico, as all these cargoes are paid for in accordance with the certificates issued by the Oil Inspectors and not on the bill of lading quantity.

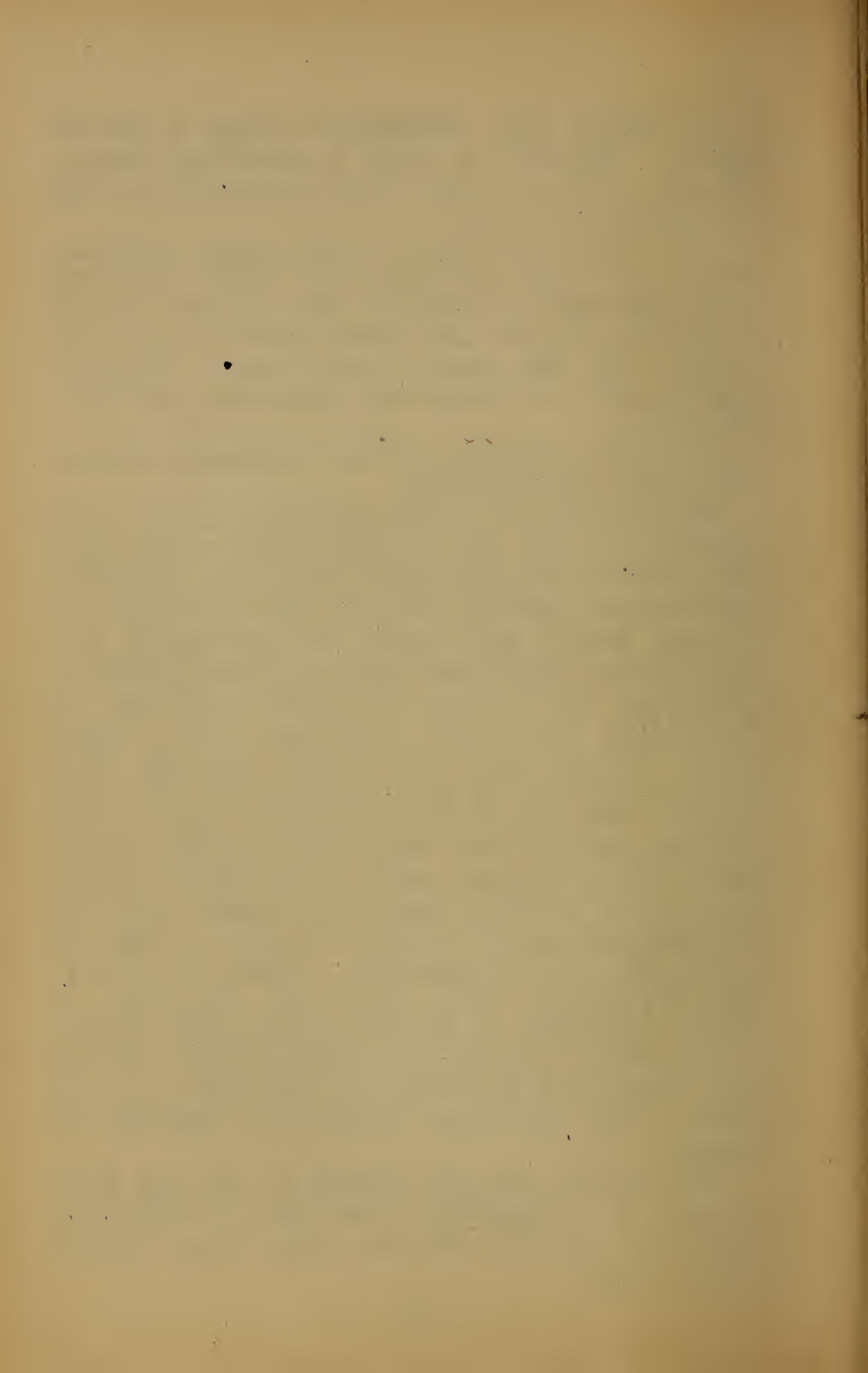
65. Harter Act. Negligence clause in bill of lading. Whenever a vessel is operating under a Charter Party, a clause shall be inserted in Bill of Lading as follows:

"This Bill of Lading is issued under a Charter Party, all of the provisions of which, including exceptions and exemptions from liability are incorporated herein, and shall prevail even if in conflict with the express terms hereof. Freight, dead freight and demurrage payable as per Charter Party."

Most bills of lading contain a negligence clause, similar to the following:

"The vessel to be in no way liable for any consequence of the Act of God, Perils of the Sea, Fire, Barratry of the Master and Crew, Enemies, Pirates and Thieves, Arrests and Restraints of Princes, Rulers and People, or Quarantine Restrictions of whatsoever nature or kind, Collision, Stranding and/or other Accidents or Errors of Navigation, even when occasioned by the Negligence, Default, Error in Judgment of the Pilot, Master, Mariners or other Servants of the Shipowner. The ship to have liberty to call at any port or ports in any order and to take bunker fuel or other supplies, and to sail without pilots, and to tow and be towed, and assist vessels in all situations and to deviate for the purpose of saving life and/or property. Ship not answerable for losses thru explosions, bursting of boilers, breakage of shafts, or any latent defect in machinery or hull not resulting from want of due diligence by the Owners of the ship or any of them, or by the Ship's husband or manager or Agent."

All Masters must be careful to see that such a clause is incorporated in all bills of lading for shipments carried between other than United States ports.



The courts of the United States do not recognize a negligence clause, but practically the same protection is obtained under the provisions of the Harter Act; the Master must therefore be very careful to see that all bills of lading covering shipments to or from the United States contain the following clause: "It is mutually agreed that the shipment is subject to all the terms and provisions of, and all the exemptions from liability contained in the Act of Congress of the United States of America, approved on the 13th day of February, 1893, and entitled, 'An Act relating to Navigation of Vessels, etc.'"

66. Manifest. The Master shall assure himself that all articles liable to duty, including those in the possession of any of his crew, are duly manifested. The Master is liable to a penalty equal to the value of merchandise not manifested.

67. Clearing vessels coastwise. Vessels in the coastwise service shall enter and clear to all United States ports.

68. Crew lists. Form No. 1. When entering port the Master shall have at least two copies of crew list prepared, in accordance with instructions printed thereon.

69. Signing on new crew. When a new crew is signed on at any port, one copy of the crew list with addresses on form supplied by Company shall be forwarded to New York.

70. Alien crew list. When entering a United States port, the Master shall have a copy of the alien crew list filled out on proper forms in accordance with instructions thereon, and hand it to the immigration officials. A fine is imposed by the Secretary of Labor for every alien member of the crew whose name fails to appear in the alien crew list.

The Master must see that he has on board be-

fore sailing from the United States a supply of the official alien crew list forms, as the immigration authorities **will not** accept alien crew lists made up on any but the official forms.

71. Supplementary crew list. Before sailing from a United States port, after signing on a crew, the Master shall see that the supplementary crew list is duly filled out and all changes in personnel entered thereon. This crew list is to be sent by the pilot or other convenient means.

72. Store lists. The Master shall prepare copies of store lists, as required by various port authorities when entering port. United States ports require two copies, Mexican ports three copies. It is suggested that several extra copies be prepared, so that they will be available if required.

73. Payroll. Form No. 2. The payroll shall contain the names of each member of the crew from the time a voyage starts until it is terminated, and should be a complete record of all financial transactions of the Master. If any member of the crew is paid off, or deserts, the payroll shall show the date, name of port and amount paid, if any.

The back of the payroll form is prepared for the Master's accounts, and it is important that when cash is received in a foreign port, the rate of exchange be noted in the **Official Log** and also on the back of the payroll. In all cases the Master shall fill out the special receipt for cash advances to Master in accordance with instructions thereon. Whenever possible, the Master is to get receipts for all money expended.

74. Paying off in foreign port. When a member of the crew is paid off in a foreign port it shall be done before the American Consul; the Consular Receipt attached to the shipping articles, and report in detail made to the Standard

Oil Co. (N. J.), Marine Department, 26 Broadway, New York, N. Y.

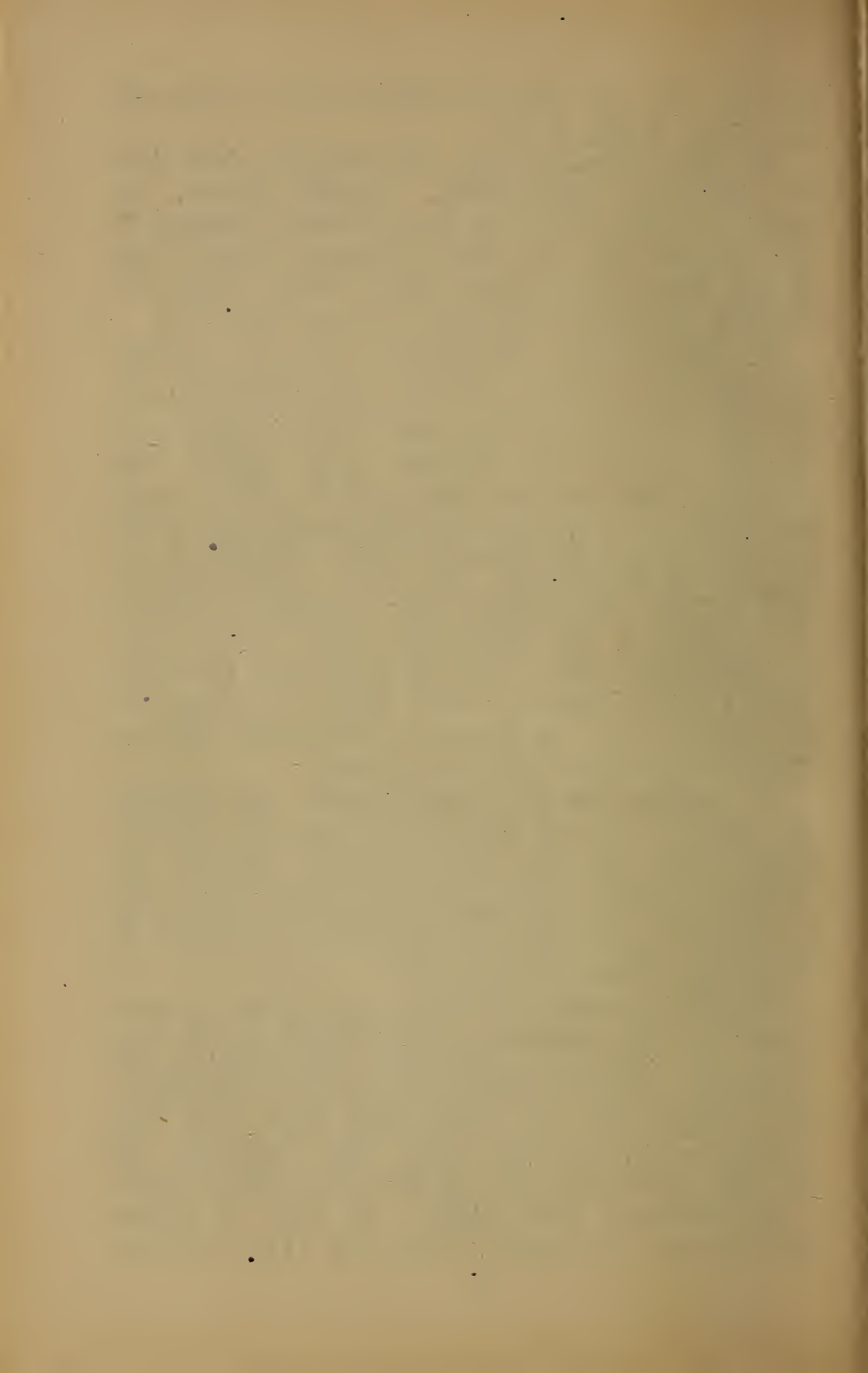
75. Alien's income tax. The Master shall thru the Revenue Department, Custom House, acquaint himself with the latest rule in regard to the income tax on alien seamen's wages, and deduct what is necessary from their wages, remitting amounts deducted to the Company.

76. Allotments. Allotments must be signed by the Master and Shipping Commissioner, and it is the Master's duty to see that all stipulations for the allotment of any part of the wages of a seaman during his absence shall specify the amounts, date of payment and to whom payments are to be made. If an allotment is stopped for any reason, the Master shall telegraph R. L. Hague, 26 Broadway, New York, immediately. The Master will notify the Company previous to sailing, of all allotment notes issued, giving full particulars. He will also notify the Company by telegraph or cable when a member of the crew having an allotment leaves the ship, so that the allotment may be stopped.

77. Application for appointment. All officers are required to fill out application for appointment, Form No. 14, when engaged. In case the Master engages officers at out-ports, Form No. 14 shall be filled out and promptly forwarded to Standard Oil Co. (N. J.), Marine Department, 26 Broadway, New York, N. Y.

78. Photographs of officers. In order to complete the office records, a photograph of all Captains and officers is required. The photograph should be similar to those on seamen's identification certificates, and shall have name and date plainly marked on the back. The Company will pay the expense of having the photograph taken.

79. Sickness and injury. In case of illness and/or personal injury, Form No. 117-B shall be



forwarded to Standard Oil Co. (N. J.), Marine Department, 26 Broadway, New York, N. Y. This form shall be filled out and forwarded promptly in case of sickness or injury, however slight, as considerable trouble has been occasioned in the past due to lack of information at the New York office. Also, it is most important that in case of discharge, or desertion, of members of the crew in a foreign port, a report be made to this office covering the date, reason, amount of wages paid, if any, and thru whom. In addition an entry shall be made in the Medical Log Abstract in every case that a member of the crew applies for treatment on account of sickness or injury.

80. List of reports. The following is a summary of the principal reports required by the Company:

Essential:

Port Log.

Notice of Readiness.

Abstract of Log (Captain's and Engineer's).

Commander's Report on Conduct of Officers and Engineers.

Ullage Report—Official.

Daily Ullage Report.

Indicator Cards.

Pressure Cards (Cargo Pumps).

Contraband Declaration.

Monthly:

Report of Physical Condition of Ship.

Report of Spare Parts on Board.

When Necessary:

Crew List.

Payroll.

Notice of Demurrage.

Requisition and Inventory of Deck Stores.

Requisition and Inventory of Provisions,
Cabin and Crew Stores.

Requisition and Inventory—Engine Room.
Requirements for Maintenance of Vessel.
Medical Log Abstract.
Report of Any Undue Detention at Loading
or Discharging Ports.
Drydocking and Painting Report.
Report of Personal Injury and/or Illness or
Death.
Report of Damage Sustained Through Col-
lision, Grounding, Etc.
Shipping Articles.
Protests Noted.
Certificate of Seaworthiness.
Port Information Report.

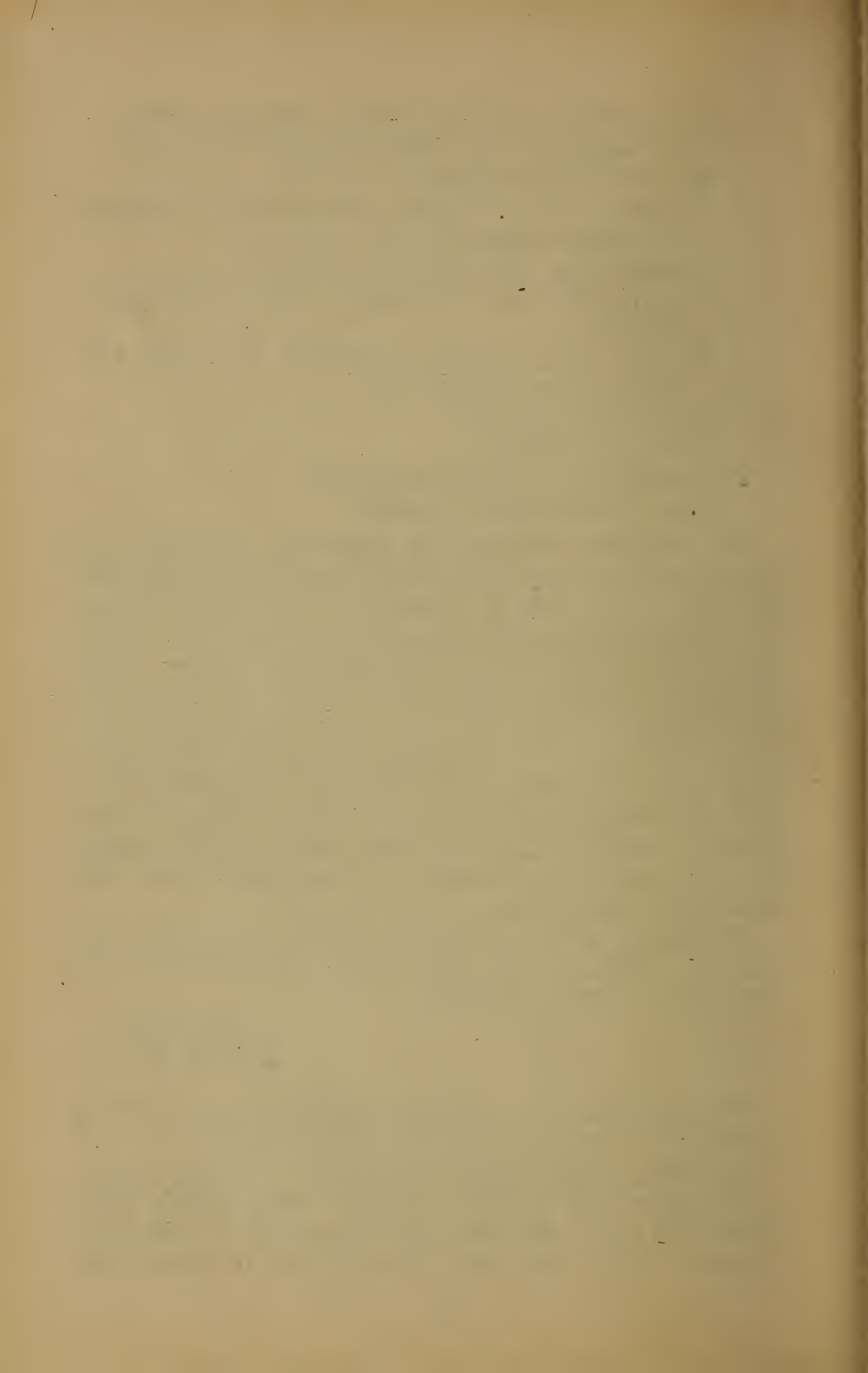
81. Signing receipts by Master. Receipts for any material or services furnished at ports outside of New York will be signed by the ship's Officer who has actual knowledge of the delivery of such goods or service. For example, the Master, Chief Engineer, Officer of the Watch (Deck or Engineer) or Steward. Masters are not to sign any contracts for work to be performed or any bills showing amounts charged if this can be avoided. If bills showing rates and prices are handed to the Master for his signature, he shall qualify signature of same by writing on the face of the bill above his signature:

“Correct as to material and/or services furnished. Prices and rates subject to approval of owner or owner's agent.

Signature.
Master S. S.”

To facilitate this matter a rubber stamp reading as above is being supplied to each vessel,

82. Receiving stores on board. When stores are received on board, an officer shall check them with bill and note any discrepancies or damaged stores, which need not be accepted if vessel can



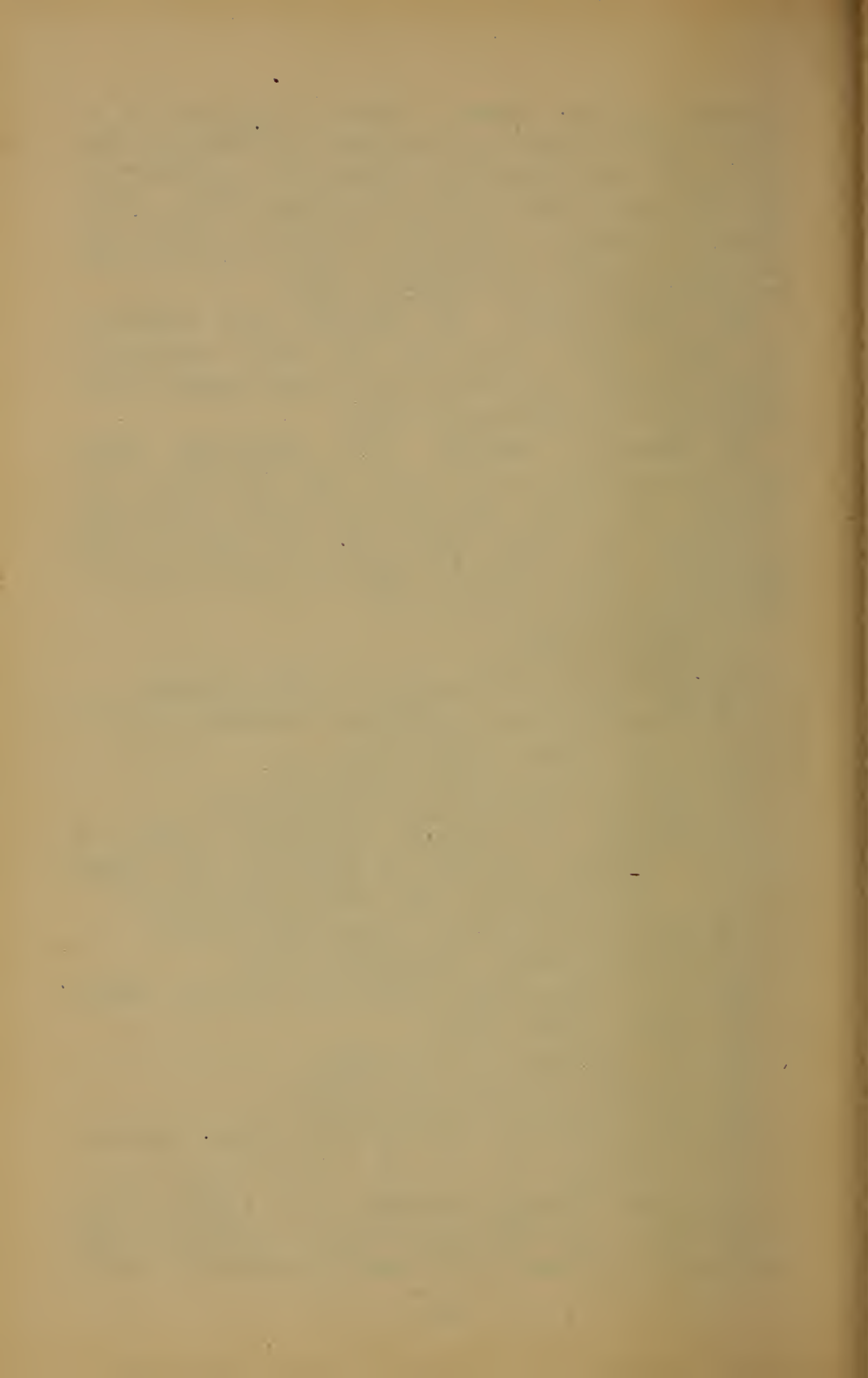
proceed without them. Stores found to be of poor quality shall be examined by Head of Department and made the subject of a written report by the Master to the New York office. Care shall be taken to prevent damage to stores by weather or other conditions, and a record of the disposition of stores shall be kept.

83. Fresh water. The Master shall endeavor to obtain fresh water at the most economical rates possible, and avoid using water barges when water can be obtained at dock.

84. Master's custody. The following books and documents are to be in the custody of the Master, and when relieved the Master shall send a receipt for same, signed by his relief, to the Standard Oil Co. (N. J.), Marine Department, 26 Broadway, New York, N. Y.:

1. Official Log.
2. Ship's Articles.
3. Certificate of Registry or Enrollment.
4. Classification Certificates including Anchor and Chain Certificates.
5. International Code of Signals.
6. Marine Department Regulations.
7. Catalog of Charts, Complete Folio of Charts, Notices to Mariners and Other Navigational Aids and Publications.
8. Panama and Suez Canal Certificates.
9. United States Navigation Law.
10. U. S. Steamboat Inspection Service Rules.
11. Night Order Book.
12. Navigational Work Book.
13. Compass Observation Book.
14. Chronometer Record Book.
15. Complete File of All Operations Instructions.

85. Chief Officer's custody. The Chief Officer shall have the following records in his custody and, when relieved, shall send a receipt for same,



signed by his relief, to the Standard Oil Co. (N. J.), Marine Department, 26 Broadway, New York, N. Y.:

1. Bridge Log.
2. Record of Stowage of Spare Parts for Deck.
3. Marine Department Regulations.
4. Complete File of All Operations Instructions.
5. Deck Work Book.

86. Chief Engineer's custody. The Chief Engineer shall have the following records in his custody and, when relieved, shall send a receipt for same, signed by his relief, to the Standard Oil Co. (N. J.), Marine Department, 26 Broadway, New York, N. Y.:

1. Engineer's Log.
2. Record Showing Stowage of Spare Parts for Engineers.
3. Journal Showing Defects and General History of Machinery.
4. Marine Department Regulations.
5. Complete File of All Operation Instructions.

ACCIDENTS

87. Investigation. In case of accident on board ship, causing injury to personnel or damage to property, either ashore, on your own vessel or another vessel (including collisions, groundings, strandings, heavy weather damage, damage to docks, wharves, buoys, etc.), the Master shall immediately investigate the damage and causes contributing to it. The Master shall always survey property damage, except when doing so will delay vessel, in which case he shall arrange with the Company's agent to have inspection made. In all cases where any other vessel or property is involved, a report must be made as above, even though no damage has been incurred.

88. Result of investigation. A brief summary

of the actual known facts established by the investigation shall be entered in the log together with names and addresses of witnesses, and report made of the essential details and facts to R. L. Hague, 26 Broadway, New York, N. Y., by telegraph, followed by a letter giving full and complete details, together with written statements signed by the witnesses.

89. Delay or change in voyage. In case the vessel's voyage is to be delayed or changed by reason of accident, the Standard Oil Co. (N. J.) Marine Department, New York, shall be informed by wire and their instructions in the premises obtained.

90. Note of Protest. A note of protest shall invariably be made whenever, during the course of a voyage, bad weather or accident of any nature has been experienced, which it is believed may have occasioned, or may later occasion, damage to either vessel or cargo. The note of protest shall be made 24 hours after arrival in port, and if port is other than New York a copy shall be forwarded by registered mail to the Standard Oil Co. (N. J.) Marine Department, 26 Broadway, New York.

The signature of the Master or other officer in command only is required on a note of protest. To extend the note of protest, the signatures of Master, Chief Officer, Chief Engineer and two other members of the crew are usually required. When necessary to extend the note of protest the Company's officials shall be consulted, as it is very necessary that the extension of protest be drawn by a person having knowledge of the details that should be included.

91. Certificate of Seaworthiness. In case of an accident such as collision or grounding, heavy weather damage, etc., the Master shall arrange for a survey and secure a certificate of seaworthi-

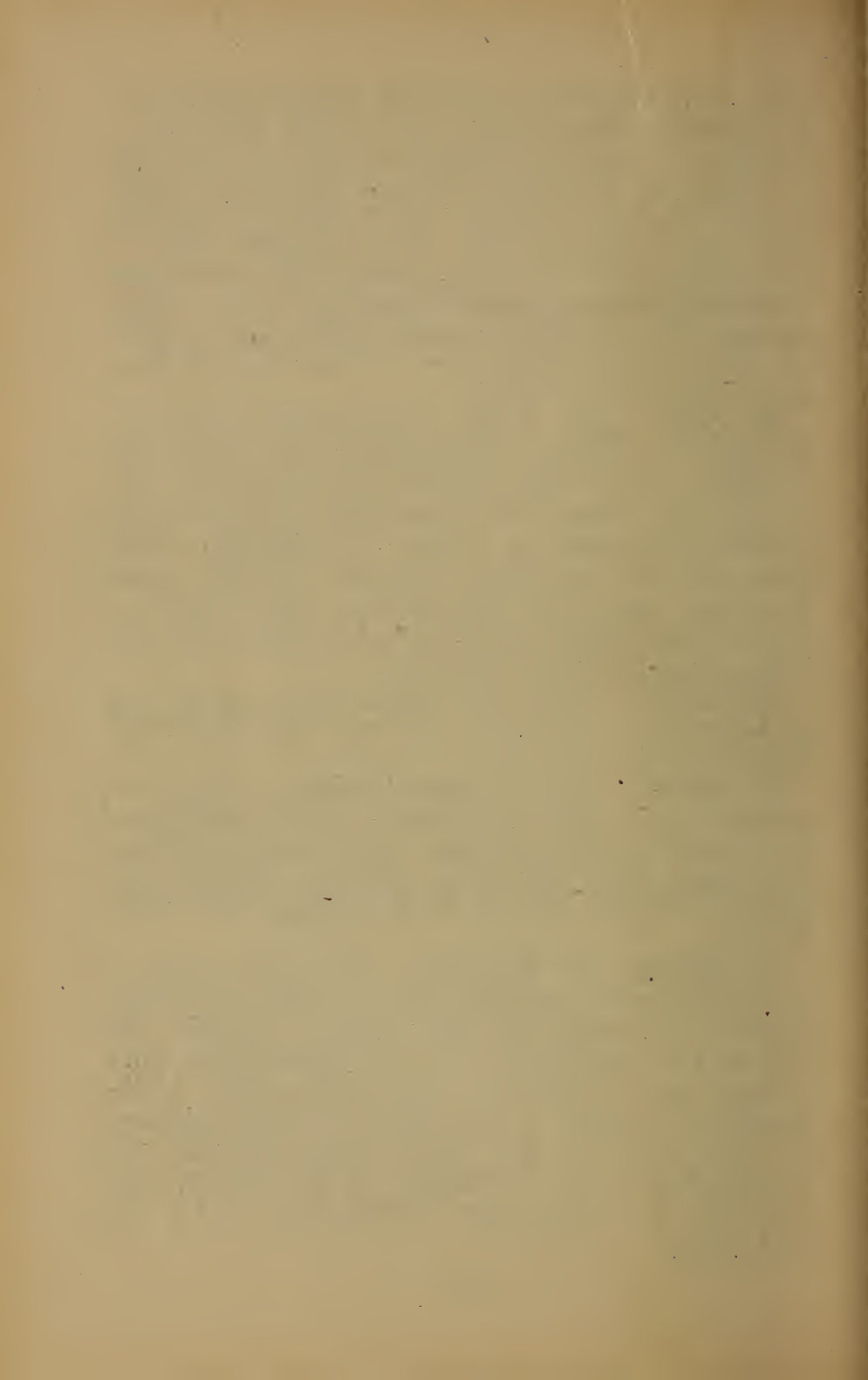
ness. The surveyors should be representatives of the Classification Society with which the ship is classed, or, if no representative of this Society can be obtained, surveyors representing some other Society shall be obtained or the survey made by two other ship-masters. In a foreign port, if ship-masters are to make survey, the American Consul shall be requested to appoint them. Ships classed with American Bureau shall apply to British Corporation if there be no American Bureau representative available.

92. Other party to be represented on survey. In case of a collision, invite the Master and owner, or agent, of the other vessel to be present at survey of your vessel. You shall also be represented without prejudice at survey of colliding vessel. When the day and hour of survey on your vessel has been agreed on, the Master and owner, or agent of the other vessel are to be notified in writing and invited to be present.

The Master shall also advise other party that he holds them responsible for any and all damage to his vessel, cargo, etc.

93. Master not to admit liability. Under no circumstances shall the Master admit liability of his vessel or any member of the crew, without consulting the Manager, Marine Department, Standard Oil Co. (N. J.), 26 Broadway, New York, N. Y.

94. Repairs of damages. When a vessel is damaged due to accident, and requires immediate repairs, if possible the ship shall be brought into the port of destination, or an intermediate port, rather than to return to the loading port. If the Master is in doubt of the steamer's seaworthiness, he shall put in to the nearest port and wire full information to R. L. Hague, 26 Broadway, New York, N. Y., requesting instructions as to ship and cargo.



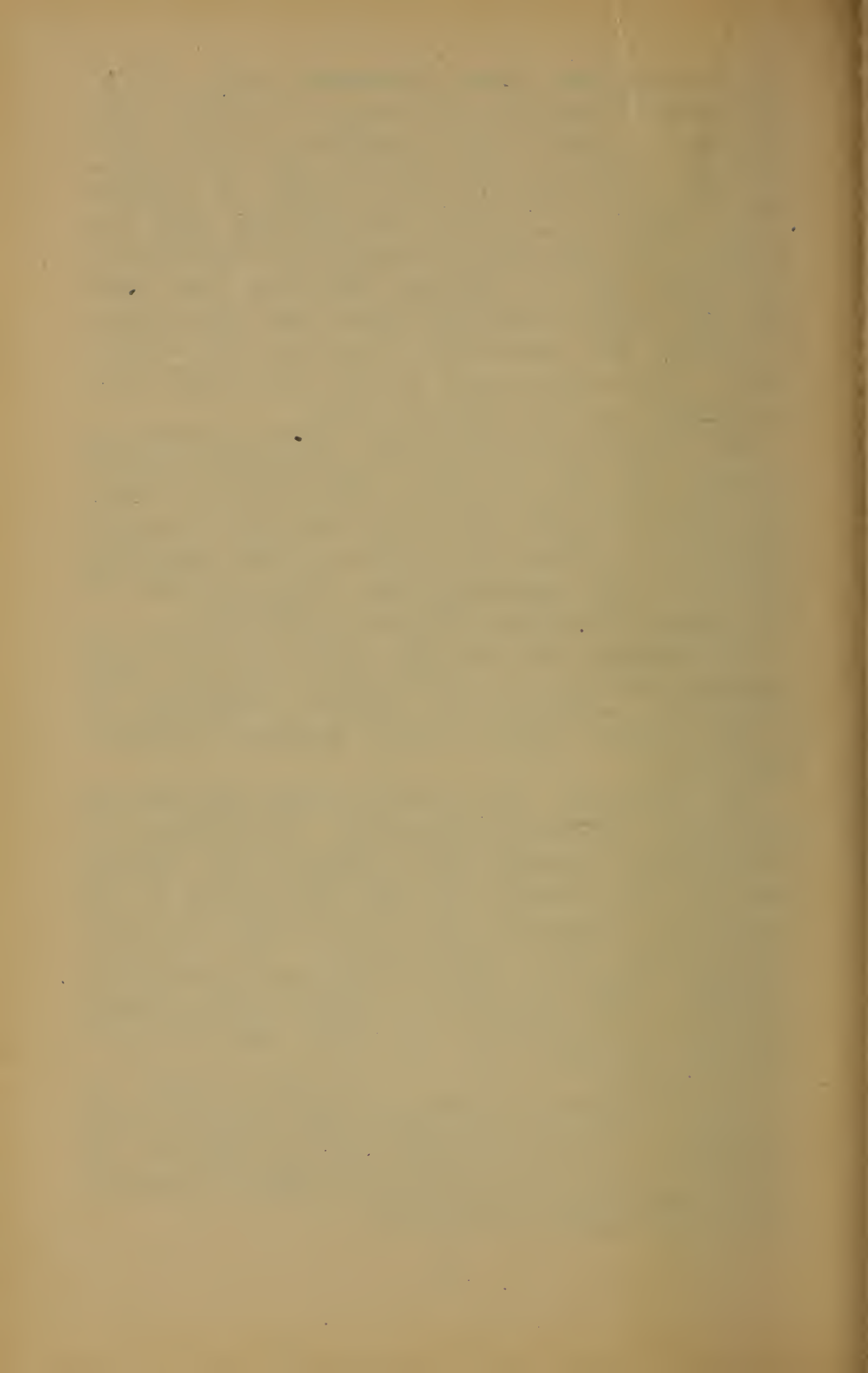
95. Precautions when jettisoning cargo. If for any reason it becomes necessary to jettison bulk oil cargo, it shall, where possible, be done thru the sea suction, or be pumped thru the cross-over pipe and down the sea suction of another pump. When the piping arrangement does not permit of the aforesaid procedure, as a last resort the cargo may be pumped thru the deck pipe line and a hose extending below the water level, to prevent the generation of gas as far as possible. In all cases where possible the cargo shall be pumped over the leeward side.

96. No fires about the deck. When jettisoning cargo in this way, the Master shall assure himself that all galley fires, donkey boiler fires and other open fires or lights about the deck are in proper condition to prevent the ignition of the enormous volume of gas enveloping the ship, especially if the cargo is Naphtha, Benzine or Gasoline.

97. Salvage. In case the vessel is involved in salvage operation, no agreement shall be made other than settlement by owner's arbitration or in the United States Court, Southern District, New York.

98. Insurance. The vessels of the fleet are not insured by insurance companies. Therefore, it is particularly essential that Masters and Officers bear in mind always, the fact that safety of the vessel, her equipment and the personnel on board should have first consideration. All accidents, whether major or minor, including groundings, collisions with wharves, or other vessels, heavy weather damages, etc., are direct total losses to the Company.

The Company requires a complete written explanation from the Captain in the case of every accident, as it is naturally assumed that he has been negligent or incompetent, unless a satisfactory explanation is received.



Reports of accident should show:

Draft of vessel forward and aft;

State of the wind, weather and sea;

Captain's opinion as to cause of accident and whom he considers responsible.

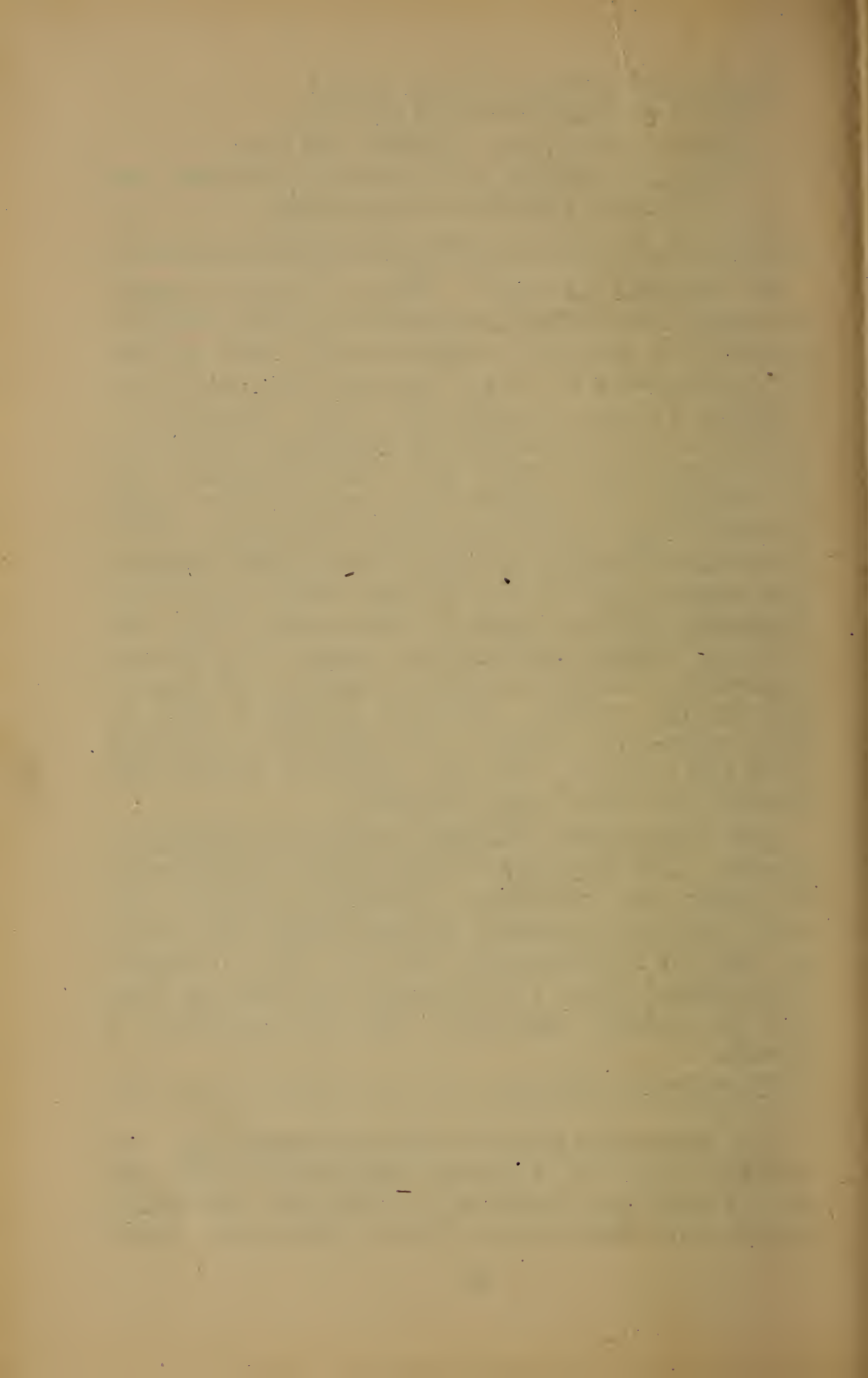
NOTE.—The fact that the vessels are not insured in no way affects the previous instructions regarding protests, surveys, etc.

99. General Average. When a vessel is carrying cargo for another company and meets with expenses of a general average nature, such as towing, jettisoning of cargo, expenses incurred in re-floating, salvage charges and other expenses incurred to save or protect the combined interest of hull, cargo and freight, it is then necessary for the Master to require the consignee or cargo owner to sign an average bond guaranteed by an Insurance Company or other responsible corporation represented in the United States or United Kingdom, before cargo is delivered, unless the letter of sailing instructions orders the Master otherwise. General average expenses are chargeable to the various interests involved, that is, hull, cargo and freight, and without an average bond the Company may be unable to recover the amount due from cargo interests.

100. Documents relating to general average expenses. All documents used in the adjustment of losses and averages, including surveys, protests, vouchers, charges, disbursements, etc., shall be sent to the Standard Oil Co. (N. J.) Marine Department, New York, marked so that the item can be readily identified with the accident it covers.

NOTE.—For full discussion of G. A. see "Hand Book for Masters," by W. H. La Boyteaux.

101. Expenses incurred thru accident, etc. Accurate record of expenses incurred as the result of accident, stress of weather, etc. (including engine and deck stores lost or damaged, stores



purchased or taken from stock to replace those lost or damaged), shall be kept and report made promptly to New York office.

DECK DEPARTMENT

102. Duties of Chief Officer. The Chief Officer, as the head of this department, shall be responsible to the Master for the cleanliness and preservation of all parts of the ship, its cargo and equipment, except that part specifically assigned to the Chief Engineer. He shall keep a deck work book in which he shall record the work done by the deck force.

103. Joining ship. Upon joining a ship the Chief Officer shall immediately familiarize himself with the ship and equipment under his charge.

104. Assignment of duties. The Chief Officer shall assign duties and lay out the work of all deck officers and men, subject to the approval of the Master.

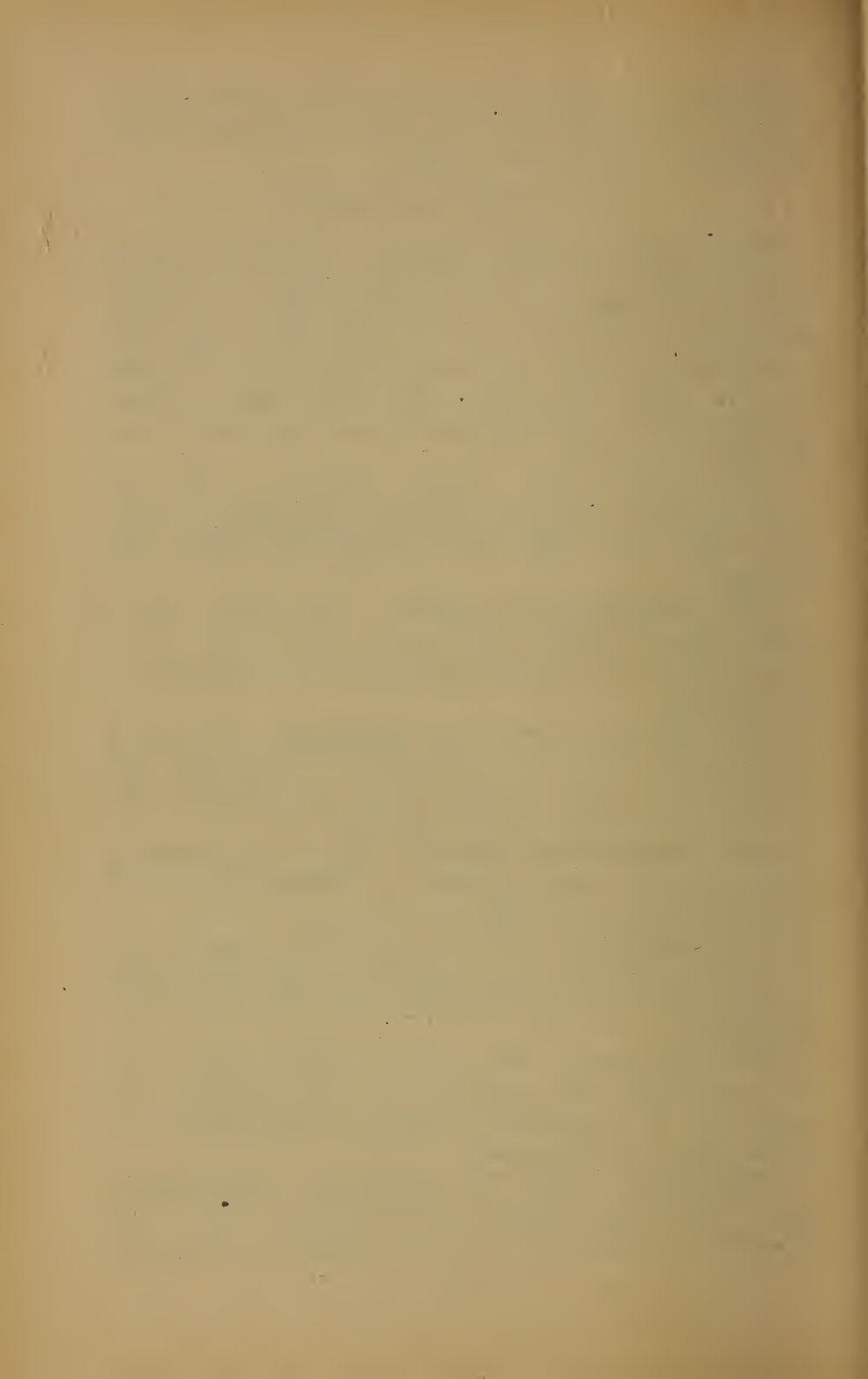
105. Succeeds Master in command. In case of the absence, death or disability of the Master, the Chief Officer shall succeed him in command and perform the duties of the Master.

106. Navigational duties. The Chief Officer shall perform such navigational duties as are assigned him by the Master.

107. Inspection. The Chief Officer shall make frequent inspections of all parts of the ship in his charge, and keep the Master informed of general conditions.

108. Personnel. The Chief Officer shall note the reliability and aptitude of deck officers and men, and be prepared to report to the Master on their general proficiency.

109. Report cases of indolence, carelessness, etc. The Chief Officer shall report all cases of indolence, carelessness in performance of duty or



other misconduct, that come to his notice, to the Master, for such action as the Master sees fit to take.

110. Loading and discharging. The Chief Officer shall be in direct charge of loading and discharging cargo, and shall take every proper step to expedite same.

111. Duties on leaving port. The Chief Officer shall assure himself that everything on deck is in readiness for sailing in ample time to make report of readiness to Master one-half hour before sailing. He shall especially satisfy himself that life-boats are properly equipped and clear for lowering, that all hatches, cargo and equipment are secured for sea and that all deck personnel has been assigned to tasks necessary to unmoor ship or get up anchor.

112. Duties on arrival in port. The Chief Officer, before arrival in port, shall assure himself that both anchors with suitable buoys are ready for "letting go" and that necessary lines are handy on deck in case ship is to be moored to dock, and be prepared to report readiness to Master in ample time.

113. Rat guards. The Chief Officer shall require that "rat guards" be fitted on mooring lines and other lines to dock. The Port Authorities at many ports require the use of "rat guards."

114. Preparations for loading or discharging. The Chief Officer shall make all proper preparations for loading or discharging cargo before arrival at point of loading or discharge, in order that there will be no unnecessary delay in starting.

Duties of Mates

115. Duties assigned by Chief Officer. The Mates shall perform such duties as are assigned them by the Master or Chief Officer.

116. Report cases of misconduct. The Mates



shall report to the Chief Officer all cases of indolence, carelessness in performance of duty or other misconduct that come to their notice.

Duties of Officer of the Watch

117. Master's representative. The Officer of the Watch is the Master's representative in his absence from the bridge and, as such, is responsible for maintaining the course and speed, the strict observance of the "Rules of the Road," and the safety of the ship in general.

118. Authority in emergency. The Officer of the Watch is not authorized to change the course or speed without the consent of the Master, except in an emergency, in which case he shall take action in accordance with Par. 119.

119. Vessel in danger. In the event of the vessel's running into danger, the Officer of the Watch, in the absence of the Master from the bridge, shall immediately take necessary steps to prevent disaster. The Master shall be notified as quickly as possible of the attendant circumstances and the action taken.

120. Report unusual weather conditions. The Officer of the Watch shall report to the Master any marked change in weather conditions, including sudden variations of barometric pressure or temperature.

121. Report sighting land, navigational marks, etc. The Officer of the Watch shall report to the Master when land, navigational marks, breakers, discolored water, or vessels which will pass close aboard are sighted.

122. Navigational duties. The Officer of the Watch shall have a chart in his custody, on which is marked the ship's course and position. He shall fix the ship's position frequently by all landmarks in sight and perform other navigational duties assigned by the Master.

123. Safety of ship. The Officer of the Watch shall always keep in mind that his responsibility for the safety of the ship is of paramount importance, and he shall never allow his navigational duties to prevent a proper lookout ahead of the ship.

124. Soundings. He shall require soundings to be taken as directed by the Master, and check the soundings obtained with those on the chart. In case of discrepancy he shall report to the Master.

125. Duty on Relieving. When the Officer of the Watch is being relieved he shall make his relief thoroughly acquainted with the position of the ship with reference to vessels in sight, and to any land or shoals which may be near; with the general condition of the weather, the course, the speed, all unexecuted orders, and the orders of the Master for the night; with the condition of the running lights and any other appliances required by law to be in operation or at hand to prevent collision; with the condition of the watch on deck for duty and the general condition of the ship. He shall particularly acquaint his relief with the position of the ship by the latest available data; any land, navigational marks or other objects that are expected to be sighted in the next watch, and the identification of those in sight. It shall also be the responsibility of the Officer relieving to assure himself that he secured all the above mentioned information.

126. Remains on bridge. The Officer of the Watch shall remain on the bridge in charge of the watch until regularly relieved and shall not engage in any occupation which may distract his attention from duty.

127. Inspection of ship. Upon being relieved, the Officer of the Watch shall make an inspection of the ship on upper decks and make an appropriate entry in the log.

128. In case of danger when relieving. If the relieving officer believes the ship is in danger he may refuse to relieve until the facts have been reported to the Master and the Master's instructions received.

Watch Officer—General

129. Rules of the road. The "Rules of the Road at Sea," by W. H. LaBoyteaux or other recognized authorities on the "Rules of the Road," are recommended to the Captains and other licensed officers for full information on the rules of the road. It should be remembered that the interpretation of the rules of the road must be in accord with the interpretation placed on these rules by the courts.

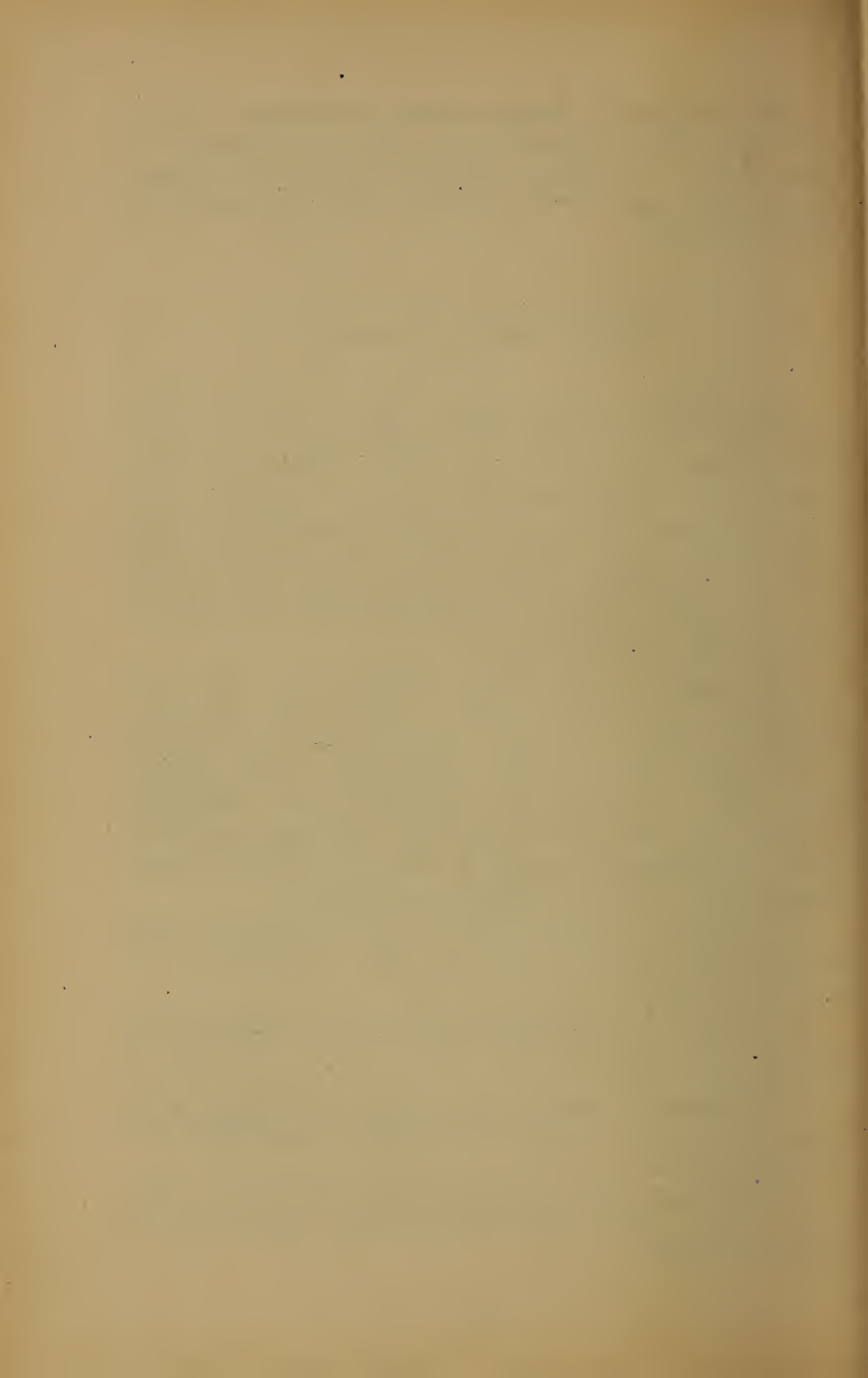
130. Anchor and cables. When the ship is in drydock the anchor cables, when time permits, shall be ranged, and the chain lockers and chains thoroughly cleaned and overhauled. The following shall especially be attended to: Shackles opened up and examined, pins renewed, and the first 30 fathoms shifted to the end of the chain. The chains shall be marked as follows:

15 fathoms. One or more turns of seizing wire around the stud of the first link. Shackle to be painted white.

30 fathoms. One or more turns of seizing wire around the stud of the second link. Shackle to be painted red.

45 fathoms. One or more turns of seizing wire around the stud of the third link. Shackle to be painted green.

60 fathoms. One or more turns of seizing wire around the stud of the fourth link. Shackle to be painted white.



75 fathoms. One or more turns of seizing wire around the stud of the fifth link. Shackle to be painted red.

90 fathoms. One or more turns of seizing wire around the stud of the sixth link. Shackle to be painted green.

131. Heaving in chain. When heaving in chain the officer in charge of the forecastle head shall assure himself that the hardwood pins of the shackles are in good condition. He shall cause each link and shackle to be "sounded" with a hammer as it comes thru the hawse pipe, monthly, in order to discover any flaw or partial fracture.

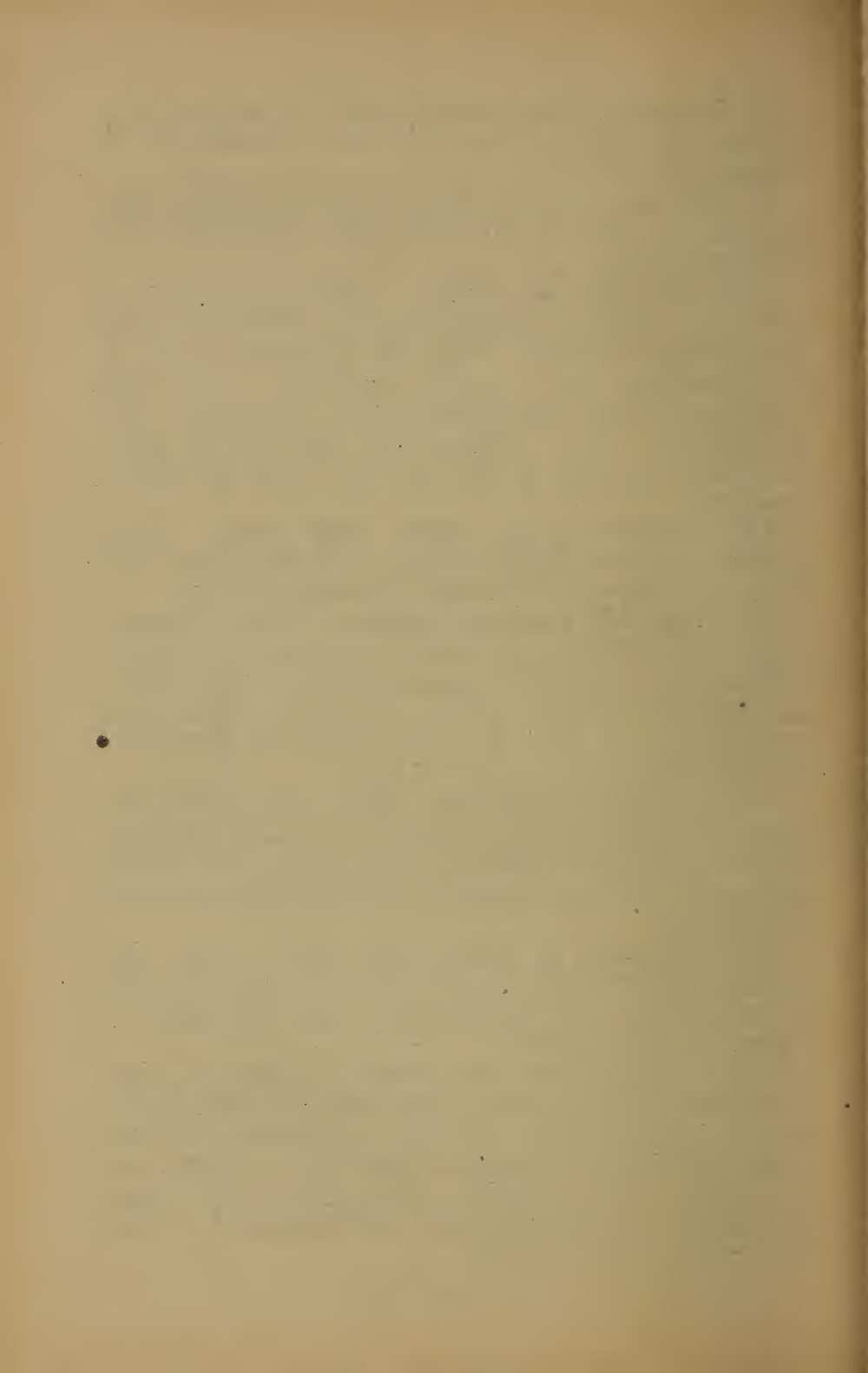
132. Anchor to be fitted with buoy. Each anchor shall be fitted with a suitable buoy and line, in order to facilitate recovery if lost.

133. Turning head on anchor. When attempting to turn the vessel head on anchor and chain, officers are advised to avoid placing undue strain on ground tackle. The windlass should be screwed up so that if undue strain is put upon it, the cable will surge.

134. Coming to anchor. After the vessel has been brought to anchor, and before main engines are secured, the ship's position shall be verified by means of cross bearings and position entered in the log.

135. Damage to submarine cable. The following extract from the Act of February 29, 1888, is quoted for the information and guidance of officers of the Fleet:

"Any person, who, by culpable negligence, shall break or injure a submarine cable shall be guilty of a misdemeanor, and on conviction thereof shall be liable to imprisonment for a term not exceeding three months, or to a fine not exceeding \$500, or both fine and imprisonment, at the discretion of the court.



"The provision of the foregoing section shall not apply to a person who breaks or injures a cable in an effort to save the life or limb of himself or any other person, or to save his own or any other vessel, provided he takes a reasonable precaution to avoid such breaking or injury."

136. Test before getting under way. Before getting under way, the main engines, whistle, siren, steering gear, telegraphs, windlass, and, if at night, running lights, shall be tested and an appropriate entry made in the bridge log.

137. Improper use of winches or windlass ends. Mooring lines shall not be made fast to winches or windlass ends, but the deck bitts shall be used for this purpose.

138. Emergency steering gear. Wires, tackles and other gear provided for steering the ship in an emergency shall be kept where they will be readily accessible.

139. Old mooring lines returned. When new mooring lines are received, the old ones which they replace shall be returned to New York on first arrival at that port.

140. Test of hand steering gear. The hand steering gear shall be tested once each calendar month while the vessel is under way, and appropriate entry made in log.

141. Inspection of movable gear. The Chief Officer is required to assure himself that all movable gear under his jurisdiction is kept in good working order. Inspection shall be made semi-monthly, and appropriate entry made in log.

142. Preservation of interior structure. Interior structure, such as fore and aft peaks, 'tween deck storerooms, holds and pumproom lockers shall be periodically scaled and kept in good order. It is expected that the crew shall perform this work.

143. Hose outlets and fittings. All hose outlets and fittings shall be of 2½-in. New York Corporation thread; this applies to both fire main and wash deck lines. In ordering new supplies, care shall be taken to specify above thread, and if any fittings now on the vessel are not of this standard they shall be replaced.

PAINTING REGULATIONS

144. The following painting instructions are to be strictly adhered to:

Preparing Surfaces for Painting

All metal surfaces are to be thoroughly chipped or scraped and wire-brushed before painting. Surfaces should be well brushed and must be free from any grease, dirt, or petroleum oils before paint is applied.

Surfaces Not to Be Painted

Under no circumstances shall paint be applied to polished brass, copper, insulated electric wiring (except when armored); the bearing edges of ports and water tight doors; rubber, galvanized iron of any and all descriptions, name plates on valves, removable canvas work, and similar surfaces where the use of paint is neither a protection nor a decoration, but merely an added expense.

Especial care must be taken to see that the threads of valve stems are not painted.

Polished brass, copper and galvanized surfaces are to be wiped off with a kerosene rag. The moving parts of machinery, gun metal or blued finish lagging, etc., are not to be painted.

Standing Rigging

Standing rigging is to be gone over with a mixture made up of equal parts of raw linseed oil and Stockholm tar.

THE FOLLOWING SCHEDULE OF "FINISH COLORS" SHALL BE STRICTLY ADHERED TO THROUGHOUT THE VESSEL, THE COLORS IN ALL INSTANCES BEING IN CONFORMITY WITH THE "SOCONY" MARINE COLOR CARD.

COLOR CARDS MAY BE OBTAINED FROM THE MARINE DEPARTMENT, NEW YORK.

- (1) Exterior shell surface up to load water line

Anti corrosive
composition

- | | |
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| (2) Exterior shell surface up to light load line | Anti-fouling composition |
| (3) Exterior shell surface from light load line to the load water line | Boot topping |
| (4) Exterior shell surface or "topsides" above the load water line, including mouldings | Dark lead color |
| (5) Exterior and interior surfaces of bulwarks including those of the midship houses | Dark lead color |
| (6) Exterior surfaces of steel deck houses, pump room entrance, forward companion and light towers | Dark lead color |
| (7) Exterior surfaces of oil tight hatch coamings and covers | Dark lead color |
| (8) All surfaces of other hatch coamings and covers | Dark lead color |
| (9) All surfaces of ventilators (including inside of cowls and trunks) | Dark lead color |
| (10) All exterior surfaces of masts, derrick posts, booms, staffs, poles and yards | Dark lead color |
| (11) All exterior surfaces of deck fittings (including rails and stanchions where not galvanized), davits, etc. | Dark lead color |
| (12) All structural work of the fore and aft bridge, exterior steel access ladders, and deck piping guards | Dark lead color |
| (13) All exterior surfaces of the Fidley top, engine space and galley skylights and the boiler space hinged covers | Dark lead color |
| (14) All exterior surface of the coaming and covers of the skylight to the firemen's and seamen's mess room | Dark lead color |
| (15) All shell, bulkhead and under side of deck surfaces within the between deck spaces, including the shelter deck midship house space and the forward dry cargo spaces | Light gray color |
| (16) The deck surface of spaces enumerated in item No. 15 | Oxide red |
| (17) All exposed or visible surfaces of steel work within the midship and after quarters except where the adjacent work is of hardwood and | |

an unsightly appearance would result, in which case the surface is to be grained to conform to the wood finish

White enamel

- (18) All exposed or visible surfaces of wood work (where not specified to be natural finish) within the mid-ship and after quarters

White enamel

- (19) All exposed or visible surfaces, within the engine and boiler spaces, pump rooms (including hatches, skylights and companions) from 30" above the floor plating upward

White enamel

- (20) All exposed or visible structural surfaces, within the steering gear house, refrigerating machine room, all storerooms and storage spaces, including lazarette (but not cold storage spaces), emergency generator room, carpenter shop, paint room, lamp locker, windlass engine space, companions, skylights and in general the interior of all enclosures where required to be painted and not otherwise specified

White enamel

- (21) Exterior and interior surfaces of boats

White enamel

- (22) Name letters on bows and stern and port of registry letters on the stern. Letters to be 12" high

White enamel

- (23) Exterior and visible surfaces of boilers, beachings, uptakes, air ducts, etc. (exclusive of furnace doors and adjacent surfaces, which are to be painted black)

White enamel

- (24) In the engine and boiler spaces, donkey boiler flat, pump rooms, steering gear house, refrigerating machine room, emergency generator room, paint locker and lamp locker and windlass engine space, the color as indicated and is to be applied only from about 30" above the floor plating or deck, upward; the omitted strip all around, is to be painted dado fashion

Dark red color

- | | |
|--|--------------------------|
| (25) The main engine housings, pumps and all surfaces of the machinery below deck requiring to be painted (except the steam end of pumps which may be painted black) | Buff color |
| (26) All non-working surfaces of deck machinery | Black |
| (27) All exposed non-covered piping on deck, in the machinery spaces, pump room, or elsewhere, black, unless required to be painted to conform with the adjacent structural surfaces as in the case of piping carried along the fore and aft bridge, on bulkheads and in quarters. | |
| (28) All electrical conduits throughout and the piping in quarters, except where of brass, are to be painted to conform with the color of the adjacent surface. | |
| (29) Smoke stack (heat resistant paint), black with a white band. White band equal to diameter of stack in depth (one diameter below top of funnel. | |
| (30) Steel decks where exposed to the weather (unpainted), apply raw linseed oil. | |
| (31) All hardwood finish throughout (including trim where the adjacent surfaces are painted) | Spar varnish
polished |
| (32) Margins of wood decks, rails, etc., where of teakwood | Spar varnish |
| (33) Wood decks, after planing, cleaning and scraping | Oil |
| (34) Pipe or standee berths, and radiators (where not of brass) | Aluminum
lacquer |
| (35) Linoleum | White shellac |
| (36) Toilet floors where cemented | Lapidolith |
| (37) The valve handwheels throughout are to be painted in accordance with the S. O. Co. (N. J.) Standard Card Form No. 65—800—3481. | |

Under no circumstances are the colors or finish of any rooms or spaces to be changed without authority of the Marine Department, New York.

144 (a). Marking valves. Valves in the pump-room, engineroom, fireroom and on deck shall be painted as follows:

Live steam valves: Bright red.

Exhaust steam valves: Blue.

Cargo oil valves: Yellow.

Bunker fuel oil valves: Black.

Sea water valves: Green.

Fresh water valves: White.

Emergency valves: Half bright red and half black.

In addition, each valve shall be tagged with a brass nameplate free from paint and name legible. The Company provides printed forms with valve markings thereon, copies of which shall be posted in the chartroom, engineers' messroom and pumproom.

Writing the Deck Log

The following is a list of the entries required by law to be entered in the official log:

145. Conviction and punishment. First. Every legal conviction of any member of the crew and the punishment inflicted.

146. Offenses to be prosecuted. Second. Every offense committed by any member of the crew, for which it is intended to prosecute or to enforce a forfeiture, together with such statement, concerning the reading over of such entry and concerning the reply, if any, made to the charge, as is required by Section 4997 (Revised Statutes).

147. Offense and punishment. Third. Every offense for which punishment is inflicted on board, and the nature of punishment inflicted.

148. Character and qualifications of members of crew. Fourth. A statement of the conduct, character and qualifications of each member of the crew, or a statement that he declines to give an opinion of such particulars.

149. Medical history. Fifth. Every case of illness or injury happening to any member of the crew, with the nature thereof and the medical treatment.

150. Death. Sixth. Every case of death happening on board, with the cause thereof.

151. Birth. Seventh. Every birth happening on board, with the sex of the infant and the names of the parents.

152. Marriage. Eighth. Every marriage taking place on board, with the names and ages of the parties.

153. Member of crew leaving. Ninth. The name of every seaman or apprentice who ceases to be a member of the crew otherwise than by death, with the place, time, manner and cause thereof.

154. Wages due deceased. Tenth. The wages due to any seaman or apprentice who dies during the voyage, and the gross amount of all deductions to be made therefrom.

155. Sale of effects of deceased. Eleventh. The sale of the effects of any seaman or apprentice who dies during the voyage, including a statement of each article sold and the sum received for it.

156. Collision. Twelfth. In every case of collision in which it is practicable to do so, the Master shall, immediately after the occurrence, cause a statement thereof, and of the circumstance under which the same occurred, to be entered in the official log book. Such entry shall be made in the manner prescribed in Section 4291 (Revised Statutes), and failure to make such entry shall subject the offender to penalties prescribed by Section 4292 (Revised Statutes).

157. Method of making entries. Every entry hereby required to be made in the official log book shall be signed by the Master and by the Mate

or some other one of the crew, and every entry in the official log book shall be made as soon as possible after the occurrence to which it relates, shall show the date of the occurrence and of the entry respecting it; and in no case shall any entry therein, in respect to any occurrence happening previously to the arrival of the vessel at her final port, be made more than 24 hours after arrival.

158. Properly kept. If the official log book is not kept in the manner hereby directed, the Master shall for each such offense be liable to a penalty of not more than \$25; and every person who makes, or procures to be made, or assists in making, any entry in any official log book in respect to any occurrence happening previous to the arrival of the vessel at her final port of discharge, more than 24 hours after such arrival, shall, for each offense, be liable to a penalty of not more than \$150.

159. Caution re changes and alterations in log entries. Masters and Officers are especially cautioned against making changes or alterations in an entry once made. Should it become necessary to correct an entry in the log because of an error, it must be done without defacing the original entry otherwise than by drawing a line thru the erroneous entry, and leaving it legible as first written. Attempts to destroy or make legible, entries once made, should never be permitted, and any attempts thereat are frowned upon by the courts as attempts to conceal the truth. The officers making changes shall initial the margin opposite the correction.

160. Additional data. In addition to the above, the following data shall be entered in the deck log:

Force and direction of the wind.

Course and speed in knots per hour.

Bearings, observations, soundings and places of departure, ship's draft when entering and leaving port.

Barometric reading, temperature of air and water, and such other matters as directed by Master.

Average revolutions per minute.

Fuel consumption.

In case of accident, the time shall be checked with engineroom records to avoid discrepancies. Appropriate entries shall likewise be made in the Deck Log when periodical inspections are made.

ENGINEERS' DEPARTMENT

161. Duties of the Chief Engineer. The Chief Engineer, as the head of the Engineers' Department, shall be responsible for the preservation and efficient working of all machinery, of whatever description, both of the ship and her boats, including the maintenance and repair of the cargo pumps, cargo pipe lines, cargo heating coils, etc. The actual operation of the cargo pumps shall be under the supervision of the Chief Officer.

162. Paramount duty. The paramount duty of the Engineers' Department is to have all machinery, boilers and other apparatus in their charge ready to meet all proper requirements.

163. When Chief Engineer joins. Upon joining a ship, the Chief Engineer shall immediately familiarize himself with the type and condition of the main engines and other machinery under his charge, and make a written report to the Marine Department which is also to be signed by the Master.

164. Responsibility to Master. The Chief Engineer is responsible to the Captain for the economical and efficient operation of the machinery under his charge.

165. Protest in case of improper order. If the Master gives the Chief Engineer an order, the execution of which, in the opinion of the Chief Engineer, may result in damage to the machinery and/or boilers, the Chief Engineer shall explain to the Master the danger of complying with the order, and if the Master insists and states that compliance is necessary for the safety of the lives of those on board, or for the vessel, the Chief Engineer shall comply with the order. The Master's opinion as to the emergency shall be final, notwithstanding the Chief Engineer's opinion, the whole matter shall be fully and completely entered in the Captain's and Engineers' log, and confirmed in writing as soon as practicable.

166. Inspection. The Chief Engineer shall inspect all parts of the ship under his charge at least once daily, and keep himself thoroughly familiar with the condition of the boilers and machinery under his charge.

167. Presence in engineroom. The Chief Engineer shall personally supervise the manœuvring of the engines when entering and leaving port, when leaving or approaching a dock, when in restricted waters or at any time when frequent bridge signals may be expected.

168. Chief Engineer aboard when docking. The Chief Engineer must be aboard the vessel when docking, and must be prepared to check, in connection with shore representatives, the amount of bunker fuel oil and water aboard at the time of docking.

When relief engineers are provided, the Chief Engineer shall personally see that the relief engineer is properly instructed, so that the latter may intelligently assume charge of the engine watch.

169. Repairs. The Chief Engineer shall keep a record of all repairs required to the main boilers, main engines and other machinery under his charge and shall be prepared to submit the record to the Master or Port Engineer when required.

170. Engineers' journal. The Chief Engineer shall keep a journal in which shall be entered all repairs or adjustments made to the main engines, boilers or other machinery coming under his cognizance. It shall be clearly stated whether work is done by the ship's force or by outside force. This journal shall indicate the amount of clearance allowed on all bearings and pins and shall be a complete history of all machinery. It shall be retained on board as a ship's permanent record, and shall be turned over to the relieving Chief Engineer if change in personnel is made.

171. Notice before trying main engines. The Chief Engineer shall give the Mate at least one half hour's notice before trying the main engines, so that the ship may be properly secured, and shall not turn over engines until informed by the Mate that the ship is properly secured.

172. Fuel, fresh water and lubricating oil. The Chief Engineer shall require the amount of fuel, fresh water and lubricating oil on hand to be accurately kept, and shall report the amount on hand and amount expended daily to the Captain.

173. Engineers' log. The Chief Engineer shall personally inspect the Engineers' log daily and assure himself that all entries therein are accurately made. When Chief Engineer is transferred or paid off he shall make an entry to that effect, giving date, and sign his name.

174. Personnel. The Chief Engineer shall note the reliability and aptitude of the Engineer, Officers and men, and shall be prepared to report to the Master on their general proficiency.

175. Report cases. The Chief Engineer shall report to the Master all cases of indolence, carelessness in performance of duties or other misconduct that may come to his notice, for such action as the Master sees fit to take.

Duties of Assistant Engineers

176. Assignments by Chief Engineer. The Assistant Engineers shall perform such duties as are assigned to them by the Chief Engineer.

177. Succeed to duties of Chief Engineer. In case of the absence, death or disability of the Chief Engineer, Assistant Engineers shall succeed in order of seniority.

178. Cases of misconduct. Assistant Engineer officers shall report to the Chief Engineer all cases of indolence, carelessness in performance of duties or other misconduct that may come to their notice.

Duties of Engineer Officer of the Watch

179. Chief Engineer's representative. The Engineer Officer of the Watch is the Chief Engineer's representative in the absence of the Chief Engineer from the engineroom, and as such he is responsible to the Chief Engineer for the economical and safe operation of the main boilers, main engines and their dependencies.

180. Responsible for maintaining speed. The Engineer Officer of the Watch is responsible to the Chief Engineer for maintaining the standard speed assigned. In case of the necessity of materially changing the speed, he shall immediately report the fact to the bridge and to the Chief Engineer.

181. Answer all bells or other signals from bridge. The Engineer Officer of the Watch shall

immediately comply with all bells or other signals from the bridge. In case of an order from the bridge or from other authority to increase speed above normal, he shall also immediately inform the Chief Engineer.

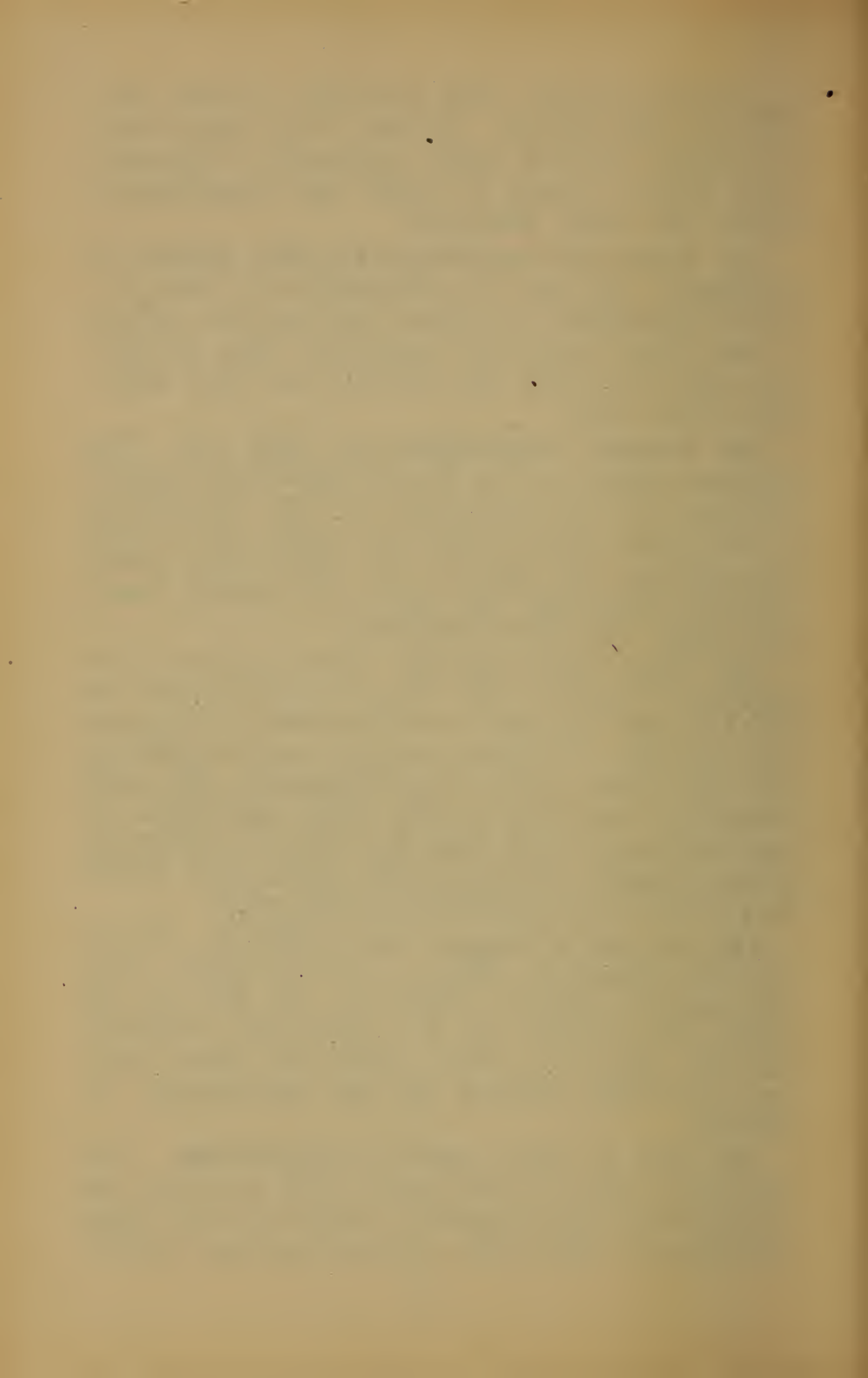
182. Report all breakdowns or other defects of machinery. In case of a breakdown or other defect of machinery or boilers, the Engineer Officer of the Watch shall take immediate steps to remedy same, but shall also inform the Chief Engineer of the facts.

183. Unusual expenditures of fuel, etc. The Engineer Officer of the Watch shall keep himself informed of the expenditure of fuel, lubricating oil and fresh water during his watch, and in case expenditures are unusual, he shall make every effort to determine the cause and remedy same, and notify the Chief Engineer.

184. Duty when relieved. When relieved, the Engineer Officer of the Watch shall inform his relief of the standard speed, boilers in use, and the condition of boilers, engines and auxiliaries and any orders of the Chief Engineer. He shall especially turn over to his relief knowledge of any bearings or rods that are "hot" or otherwise giving trouble, and any other facts that would be of interest or assistance to his relief.

185. In case of danger when relieving. If the relieving Engineer Officer is of the opinion that the vessel's engines, boilers or any part of the engine department are in a dangerous condition he may refuse to relieve until the Chief Engineer has been notified and his instructions received.

186. Not to leave boiler or engineroom. The Engineer Officer of the Watch shall not leave the engineroom unless regularly relieved by the Chief Engineer or other duly qualified Engineer Officer.



Duties of the Pumpman

187. Scope. The pumpman shall be under the Chief Engineer for upkeep and repair of the cargo pumps, and under the Mate for loading, discharging and ballasting the ship. Therefore, he shall be under the Mate 24 hours before starting to load or discharge and 24 hours after completing. At other times he shall be under the Chief Engineer.

188. When signing on. The pumpman shall be signed on in the articles as "Pumpman and Carpenter."

Machinist

189. Duties. The Company has adopted the policy of carrying machinists on certain vessels of the Fleet.

Machinists are to work under the supervision of the Chief Engineer on general repair work thruout the ship.

190. Economical operation. The Engineers' Department shall make every effort to operate with greatest economy.

191. Suggestions for economy. It is suggested that the following be given especial attention to gain economy:

- Reduce visible steam leaks to a minimum.

- Check amount of make-up feed water used and reduce it to a minimum.

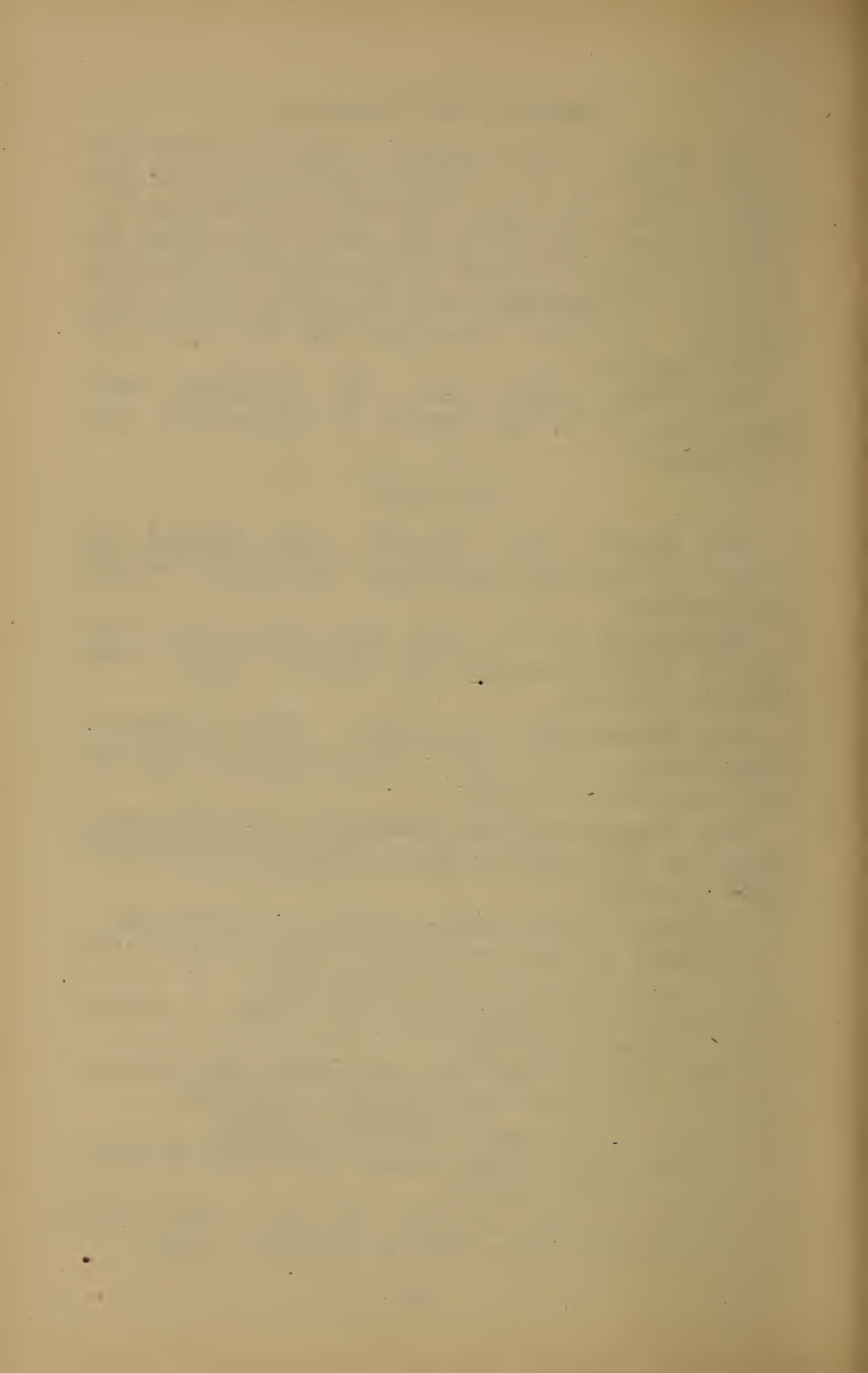
- Keep boiler feed water free from oil, salt or other impurities.

- Do not run auxiliary machinery any more or any faster than actually required.

- Stop all air leaks in boiler casings.

- Keep boiler feed water as hot as facilities available permit.

- Keep cut-off correctly set and verify same frequently by taking indicator cards.



Regulate fires to obtain maximum heat from fuel.

Be sure that steam traps are working properly.

192. Precautions. Sudden or unequal heating or cooling of boilers, machinery or steam lines shall be avoided. The following are common causes:

Raising steam in boilers too quickly.

Insufficient circulation of water when raising steam in boilers.

Turning steam on steam line when cold.

Failure to sufficiently warm up main engines or other machinery before starting.

Allowing boiler to cool off too quickly when dying out fires.

193. Turbine reduction sets. It is directed that Chief Engineers of vessels equipped with turbine reduction sets give strict attention to the turbine reduction gear lubrication system; successful operation is absolutely dependent upon continuous and complete lubrication.

194. Water in steam lines. The danger of a water hammer due to water in steam lines or in cylinders of machinery shall always be kept in mind and avoided by maintaining proper water level in boilers and proper working of separators and traps.

195. Continual vigilance. Inspection of machinery in operation shall be vigilant, and defects (such as overheating, knocks, etc.) noted, and corrected at first opportunity.

196. Engineerroom telegraph. The engineerroom telegraph is a most important means of communication on board ship. One of the Assistant Engineers shall be given the care of this equipment. When ending a sea voyage and just before entering restricted waters, the Engineer Officer of the Watch shall request the bridge to test out all

engine room telegraphs. The bridge shall grant this request. An entry shall be made in the Engineers' log of this test.

197. Test signals. Test out engineroom telegraph, gongs and other means of signalling to bridge. Before testing out main engines, all engineroom telegraphs, gongs, voice tubes, telephones and any other means of signaling to the bridge shall be tested out.

198. Main engines. One half hour before getting under way, permission shall be obtained from the Captain, or his representative, and main engines tried out in both directions. The Chief Engineer should send a man aft to see that everything is clear of the stern before trying out main engines.

199. Steering engine, anchor engines, winches, etc. See that steering engine, anchor engines, winches and other auxiliaries on deck have been tested out and are ready for use in ample time.

200. Precautions to safeguard personnel. When opening boilers or machinery for work or inspection inside, especial care shall be taken to prevent steam or hot water being accidentally admitted with resultant injury to personnel or damage to property. All valves on steam exhaust or water lines shall be tightly closed and blanked off where possible; otherwise wired shut, and a conspicuous sign placed on them as follows: "Danger—Do not open." It is advisable, when possible, to have at least two valves closed in this manner between the steam, exhaust or hot water and the open boiler or machinery.

201. Vacuum in boiler. Before removing boiler manhole plate, open air cocks to release vacuum.

202. Men in unventilated compartments. No man shall be allowed to enter fuel tanks, boilers, double bottoms or other parts of the ship not well ventilated until the air is pure and fit for them

to breathe. Men working in such places shall never be left unattended. In case of emergency, they shall be required to use a helmet and life line.

203. When taking down steam, exhaust and water lines. When sections of steam, exhaust or water lines are taken down for repairs, the open flanges shall be fitted with a suitable blank to avoid damage from accidentally turning steam, exhaust or water on line taken down.

204. Zinc plates: care of boiler feed water. Zinc plates shall be fitted in boilers as follows:

2 furnace boilers: 10 zinc plates.

3 furnace boilers: 12 zinc plates.

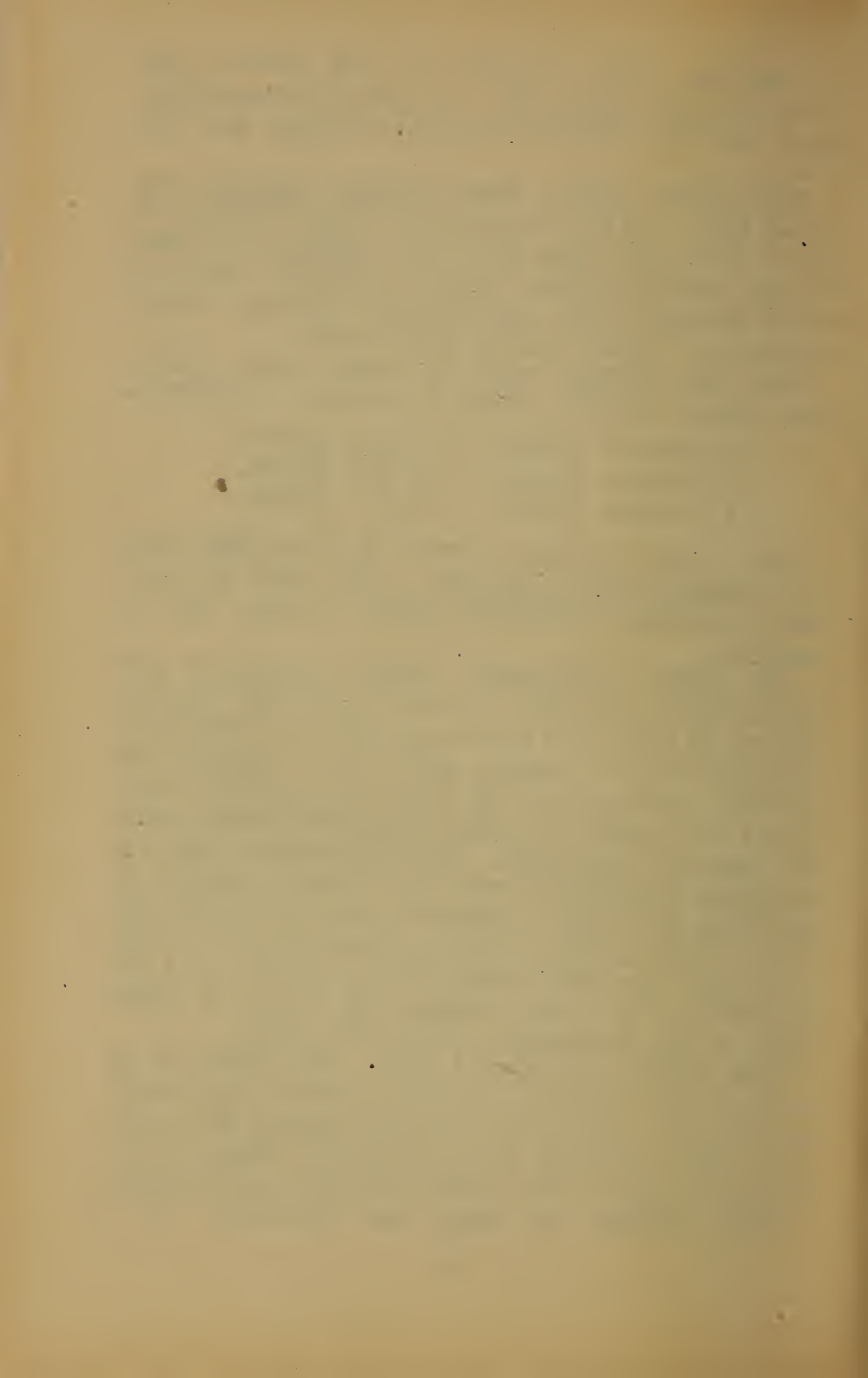
4 furnace boilers: 14 zinc plates.

Care shall be taken to have good metallic contact between boiler and zinc. Zinc shall be carefully examined whenever boiler is open for inspection.

205. Boiler compound. Boiler compound will be furnished the ship in order to prevent the formation of scale and counteract the evil effects of corrosion due to impure water, etc. Specific and detailed instructions for the use of boiler compound and outfits for the testing of boiler water will also be furnished. The Engineers shall familiarize themselves with the proper method of handling the boiler compound and of testing the water in the boilers, and the Chief Engineer shall personally test the water in the boilers at least once every 24 hours, noting the result of these tests in the Engineers' official log book.

206. Effects of oil and acid. The effect of oil in the boiler water is to form a scale on the boiler, and it is the principal agent in making the water acid, with resultant active corrosive effects on interior of boiler; also causes foaming and priming.

207. Addition of soda and kerosene. In a



newly-filled boiler add 15 pounds of soda and one pint of kerosene.

208. Test of condenser water and boiler water. The water in the feed and filter tank, as well as boilers, shall be tested once every watch, and if any salt be found the reason therefor shall be determined and corrected at first opportunity.

209. Grease extractors. When grease extractors are fitted on the feed line they shall be steamed out and cleaned at least once every 24 hours.

Care and Preservation of Boilers

210. Cleaning water side. The boilers should be opened up and water side cleaned every four months if practicable.

211. Opening Boilers. When it becomes necessary to open up boilers for cleaning, examination and/or repairs, at least twelve hours must elapse from the time the boiler is shut down until the water is emptied from same, and manhole plates removed. No artificial means of cooling boilers, such as turning ventilators to the wind, inserting windsails, etc., shall be resorted to. The above shall not be deviated from except in cases of urgent emergency.

212. Examination. After wiping out, the Chief Engineer shall examine the interior of the boiler and make detailed notes in log book as to condition.

213. Closing up boiler. After completion of work as set forth above, the Chief Engineer shall again inspect the water sides of boiler and interior fittings and see that all work has been properly performed and boilers are ready for closing up. He shall assure himself that steam spaces are coated with white zinc and kerosene. Upon being closed up, the boilers shall be filled with water at least 100 deg. F. in temperature,

if possible, and the Chief Engineer shall assure himself that all tubes are fitted with retarders.

214. Test of safety valves. Safety valves shall be lifted at least once each calendar month.

215. Indicator cards. One set of indicator cards, not worked out, shall be taken with the vessel in ballast and one set not worked out with a loaded ship on each voyage, in addition to one set of cards properly worked out. In addition to the usual data called for on indicator cards, the Chief Engineer shall submit the following, sending same to the New York office:

Percentage of cut-off.

Length of time vessel is out of dock.

Conditions of weather when cards were taken.

Approximate draft forward and aft.

Pitch of propeller.

Average revolutions per minute for four hours, at time cards were taken.

Average speed by log for four hours, at time cards were taken.

Percentage of error in log reading.

Average stack temperature.

Average fuel oil temperature.

Average fuel oil pressure.

Average consumption of fuel oil for four hours, at time cards were taken (by meter and/or by actual measurement).

Percentage of error in meter reading.

Average temperature of water in hotwell.

Average vacuum.

Average back pressure on auxiliary exhaust lines.

Average feed water temperature.

The cards shall be kept clean and legible, and are to be taken under normal running conditions.

216. Work to be performed by ship's personnel. The Company considers the following lines em-

body the scope of upkeep work to be performed by the ship's staff without outside assistance:

Unless otherwise properly authorized by a representative of the Repair Division, the Engineering Staff shall open up for examination main engines, condensers, and all auxiliaries prior to submitting requisitions for repairs in order to ascertain the extent of repairs required.

The Engineering Staff is also required to overhaul main engines and auxiliaries and take up all lost motion, etc., in same; they should pack rods and valve stems, pack and overhaul all pumps as found necessary, grind in all valves and remake all steam, exhaust and water pipe joints, etc.

Only in the case of repairs becoming necessary to the above is the assistance of repair contractors to be requisitioned.

It is also the duty of the Engineering Staff to assist the repair contractors and to facilitate their work as much as possible, and further, to see that all repairs are properly made.

217. Refrigerator temperatures. One of the Engineers and the Steward shall take the refrigerator temperature twice daily, and enter the result in the book provided for the purpose.

STEWARDS' DEPARTMENT

218. Duties of Steward. The Steward, as head of this department, shall be directly responsible to the Master for the cleanliness and good condition of the living compartments, messrooms, galley, refrigerator compartments, storerooms under his charge, and the conduct of all members of his department.

219. Issuing of stores. The Steward shall personally issue all stores and provisions under his charge, and under no circumstances shall he give the keys of storerooms to the cooks or messmen.

220. Opening of freezing rooms and iceboxes.

Freezing rooms and iceboxes shall not be opened oftener than twice a day, at which time all provisions required shall be removed, and the temperature taken in the presence of an Engineer Officer.

221. Condemned stores. No provisions or stores shall be condemned and thrown overboard unless witnessed by the Captain and Chief Engineer; and in every such case a written report shall be made to the Standard Oil Company (N. J.), Marine Department, 26 Broadway, New York, N. Y., and signed by the Captain, Chief Engineer and Steward.

222. Inventory. The Steward shall make a complete and accurate inventory of all stores and provisions remaining on board at the end of the voyage, and turn it over to the Master, who will forward same to the Standard Oil Company (N. J.), Marine Department, New York.

223. Purchasing supplies. The Port Stewards will supply the vessels with sufficient provisions and supplies for the voyage, so that it should not be necessary to purchase provisions en route, other than those outlined in the Master's letter of instructions; in all cases, however, the Master must be consulted and his approval obtained in writing before purchasing stores.

224. Bills and invoices. Copies of all bills or invoices for provisions must be kept by the Steward, in files provided, and turned over to the Port Steward on demand.

225. Extended voyage. In case the voyage is greatly extended, provisions and stores may, after the Captain's written approval, be purchased in the event of urgent necessity.

226. Extra meals. In case meals are served to persons other than members of the ship's personnel, a receipt shall be obtained and turned in with requisitions at the end of voyage; otherwise no credit will be given for such extra meals.

REPAIRS

227. Requirements. The Company furnishes a form for "Requirements for Maintenance and Repairs of the Vessels." Requirements are always to be entered on the appropriate forms and in quadruplicate.

228. Checkers. Checkers will be placed on vessels on which work is being performed on time, who will check the work as to labor and material. The Captain and ship's Officers shall co-operate with checkers in every way practicable. The checkers shall be subsisted in one of the officers' messes.

229. Procedure following preparation of requisition. The procedure to be followed in the preparation of a requisition is different under the following conditions:

- (1) When in New York,
- (2) When in other U. S. ports having Supervising Engineers,
- (3) When in an outport in U. S. or at Tampico, Mex.,
- (4) When in a foreign port.

The procedure under each of the above conditions is set forth below.

230. Procedure when in New York. When in New York the original and duplicate copies shall be handed to the Supervising Engineer, the triplicate copy handed to the Superintendent of Construction and Repair, at 26 Broadway, and the quadruplicate retained on board ship. A copy of the confirming order for repairs is sent to the ship, and as soon as practicable after the completion of repairs, the Chief Engineer shall check the work actually done against the ship's copy of the confirming order by items of work, and make appropriate remarks opposite each item, such as "Work satisfactorily completed," "Work com-

pleted except ———,” “Work unsatisfactory,” (state reason), etc.

When work has been checked up as above, the Captain shall immediately mail the copy of confirming order to the C. & R. Division, Standard Oil Co. (N. J.) Marine Department, 26 Broadway, New York, N. Y. This is very important, as it is used as a check on the Repair Yard bills, and shall therefore be given the careful attention of all concerned.

231. Procedure in U. S. ports other than New York. The procedure in ports, where Supervising Engineers are available, other than New York, is the same as at New York, except that the Captain hands the triplicate copy of requisition to the Agent instead of to the Superintendent of Construction & Repair, and the Agent, in turn, forwards it to the Standard Oil Co. (N. J.) Marine Department, 26 Broadway, New York, N. Y.

232. Repairs at outports in U. S. and Tampico, Mex. No repairs shall be undertaken at outports, except those necessary for the dispatch and seaworthiness of the ship, unless authorized by the New York office. In preparing requisitions for repairs at outports, the above must be borne in mind; otherwise the preparation of requisition is the same as already described, except the ship's Officers **do not sign** the duplicate copy until work is completed. The original and duplicates are handed to the Repair Yard, the triplicate turned over to our Agent to forward to the Standard Oil Co. (N. J.) Marine Department, New York, and the quadruplicate retained by the ship.

The original, after being signed by the Captain and ship's Officers, constitutes an order on the Repair Yard. The duplicate is **not** signed until all work is completed, when it should be presented to the ship's Officers by the Repair Yard for approval and signature. The ship's Officers shall

correct the duplicate, as per instructions on same, so that it will show the work actually performed; sign and return it to the Repair Yard, with instructions to mail it immediately to the Standard Oil Co. (N. J.) Marine Department, New York. In case additional work be required after first requisitions have been accomplished, an additional requisition shall be made out in quadruplicate and handled in the same way.

No bills are required to be signed by Master in above cases, as duplicate copies of requisitions serve instead.

233. Repairs in foreign ports. Only repairs necessary for the dispatch and seaworthiness of the vessel shall be undertaken in foreign ports. In every case the Captain shall endeavor to get the labor and material costs itemized so as to show that which is chargeable under the various items shown on work list.

234. Master to be informed of repairs. The Master shall keep himself informed by consulting the Chief Engineer and Chief Officer of all repairs necessary to the ship, and shall require them to furnish him, prior to arrival, with a repair list by items, in writing, for transmittal to the Standard Oil Co. (N. J.) Marine Department, New York.

235. Repairs to wireless. The wireless apparatus is the property of the Radio Corporation of America, and they look after the repairs to the wireless on all our vessels. In case any repairs are required, they shall be obtained thru the agents of the Radio Corporation. When the vessel is in New York, arrangements shall be made thru the Standard Oil Co. (N. J.) Marine Department, 26 Broadway, New York, N. Y.

236. Inspection of submarine signal apparatus. The submarine signalling apparatus shall be inspected at least once every six months. The Submarine Signal Company, from whom this ap-

paratus is rented, have inspectors at the following ports: Montreal (summer), St. John (winter), Boston, New York, Philadelphia, Norfolk, San Francisco, and Seattle.

When at one of the above mentioned ports and an inspection has not been made of the apparatus during the previous six months, notify the Submarine Signal Co., as well as the Standard Oil Co. (N. J.) Marine Department, 26 Broadway, New York, N. Y.

237. Spare parts. All spare parts kept on ship shall be stowed in places where they are adequately protected from the elements, and where they are readily accessible in case of need; in no case shall they be stowed where there will be undue delay in getting them in the event that they are needed. They shall be overhauled as often as necessary to keep them in first-class condition.

The Chief Officer and Chief Engineer shall keep a record, showing the stowage of all spare parts in custody of their respective departments, in order that they can be readily located when required.

The Chief Officer's record of Spare Parts shall include a record of anchors on board, showing their weight, type, etc.; on which bow the respective anchors are carried, and, in case an anchor is lost, the weight, certificate number and type of anchor shall be included in report of loss, in order to facilitate replacing it with a new one. A similar record shall be kept of anchor chains.

SAFETY PRECAUTIONS

238. Strict observance. The Master shall require strict observance of safety precautions by all persons on his vessel.

239. Fire drills and equipment. The Master shall assure himself that all fire-fighting equipment is in good condition at all times, and that

the personnel are familiar with their duties in case of fire. Fire and boat drills shall be held weekly when weather and other conditions permit and an entry made in the ship's log whenever these drills are held.

240. Lungmotors and gas helmets. The Company has supplied the vessels of its fleet with lungmotors and gas helmets which shall be placed near the midships quarters, and kept in perfect condition at all times. One spare tank of oxygen for lungmotor, two spare tanks for gas helmets and six regenerators shall always be kept in lungmotor and gas helmet case.

241. Instructions for use of lungmotors, etc. Books of instruction are to be kept in each lungmotor and gas helmet case.

242. Purpose of lungmotor. The lungmotor is for the purpose of inducing artificial respiration in persons apparently drowned, overcome by gases, suffering from electric shock, or otherwise suffering from strangulation. The lungmotor shall always be promptly applied to persons suffering from above causes, even though they are apparently dead, and applications shall be continued for at least two hours before giving up.

243. Purpose of gas helmet. Gas helmets of various kinds are for the purpose of protecting persons entering compartments containing gases, smoke or other poisonous matter. **THEREFORE, IF THERE BE ANY POSSIBILITY THAT THE AIR IS INFECTED WITH GASES, SMOKE OR OTHER IMPURITIES, MAKING THE AIR UNFIT TO BREATHE, NO PERSON SHALL BE PERMITTED TO ENTER THE SPACE UNTIL IT IS KNOWN TO BE FREE OF GASES OR OTHER IMPURITIES, UNLESS HE IS PROTECTED BY A GAS HELMET AND FITTED WITH A SUITABLE LIFE LINE STRONG ENOUGH TO HAUL HIM OUT WITHOUT HIS**

OWN ASSISTANCE. THIS LINE IS TO BE ATTENDED BY AT LEAST ONE MAN ON DECK AS LONG AS THE PERSON IS IN THE TANK OR OTHER SPACE.

In case the man entering the dangerous space cannot be seen at all times, the following signals shall be pre-arranged:

One pull O. K.
Two pulls More slack.
Three pulls Take in slack.
Four pulls Haul me out.

The man tending line on deck shall give "O. K." signals at short intervals, and if no response is received, the other shall be hauled out immediately.

The fact that gas masks are effective for a **limited time** only shall always be kept in mind, and men shall be required to come out in order to get a new supply of air or oxygen in ample time.

244. Demonstration and practice. The lung-motor and gas helmets shall be tried out and demonstrated in the presence of the officers and crew, in order that they may become thoroughly familiar with their use and obtain **confidence in their effectiveness**. This demonstration shall be made to every new crew, and at least once monthly to old crew and entry of this fact made in the ship's log.

245. Electric light and flashlight. The use of electric hand lamps with cable attachment (portables) shall under no conditions be used in tanks or pumproom (except when under repairs and a chemist's certificate has first been obtained stating the space is gas free). "Ever-Ready" flashlights or torches are provided by the Company and shall be used for purposes of this kind, and a sufficient number shall always be kept at hand to meet usual demand. The flashlights' buttons shall be well insulated with tape.

246. No naked lights. No naked lights are to be permitted on board at any time except by direct authority of the Master. Each ship shall have at least two safety lamps on board to be used in case of failure of ship's lighting plant.

247. Safety matches. No matches except approved safety matches shall be allowed on board.

248. Responsibility for fire extinguishing apparatus. The Heads of the Departments are responsible for the fire extinguishing apparatus in compartments under their jurisdiction, and shall make weekly personal inspections and tests in order to assure themselves that all parts are in perfect condition and ready for instant use, and report this fact to the Master who will cause entry of same to be made in the ship's log.

249. Means for extinguishing fires. THE MASTER SHALL BE RESPONSIBLE FOR KEEPING AT HAND SUFFICIENT MEANS FOR EXTINGUISHING FIRES. In this connection, the following is required as a minimum:

Crew's quarters	2	chemical	fire	extinguishers
Fireroom	2	"	"	"
Galley	1	"	"	"
Engineers' messroom	1	"	"	"
Pumproom	1	"	"	"
Chartroom	1	"	"	"
Engineroom	1	"	"	"
<hr/>				
Total	9	"	"	"

250. Precaution against freezing. Unless fire extinguishers are of a non-freezing type, they shall be properly protected in cold weather to prevent freezing.

251. Sand. An ample supply of sand for smothering fires shall be kept in the fire-, engine- and pumprooms.

252. Instruction to crew. The crew shall be carefully instructed in the use of all fire extinguishing apparatus and their duty in case of a

fire, and drill shall be held weekly when possible.

253. Smothering Lines to Cargo Tanks. Smothering lines to cargo tanks of all vessels shall be set in the following manner:

1. Main control valve shut.
2. Valves into each individual tank to be open at all times.

In connection with the above, the following is quoted from Rule IV, Clause 4, Page 142, of General Rules and Regulations of the Board of Supervising Inspectors:

“All branch pipes shall be provided with valves which shall be left open at all times, so that the steam may enter all compartments simultaneously. Such branches as may not be required after the fire is definitely located may be shut off, in order that the entire system may be concentrated on one tank.”

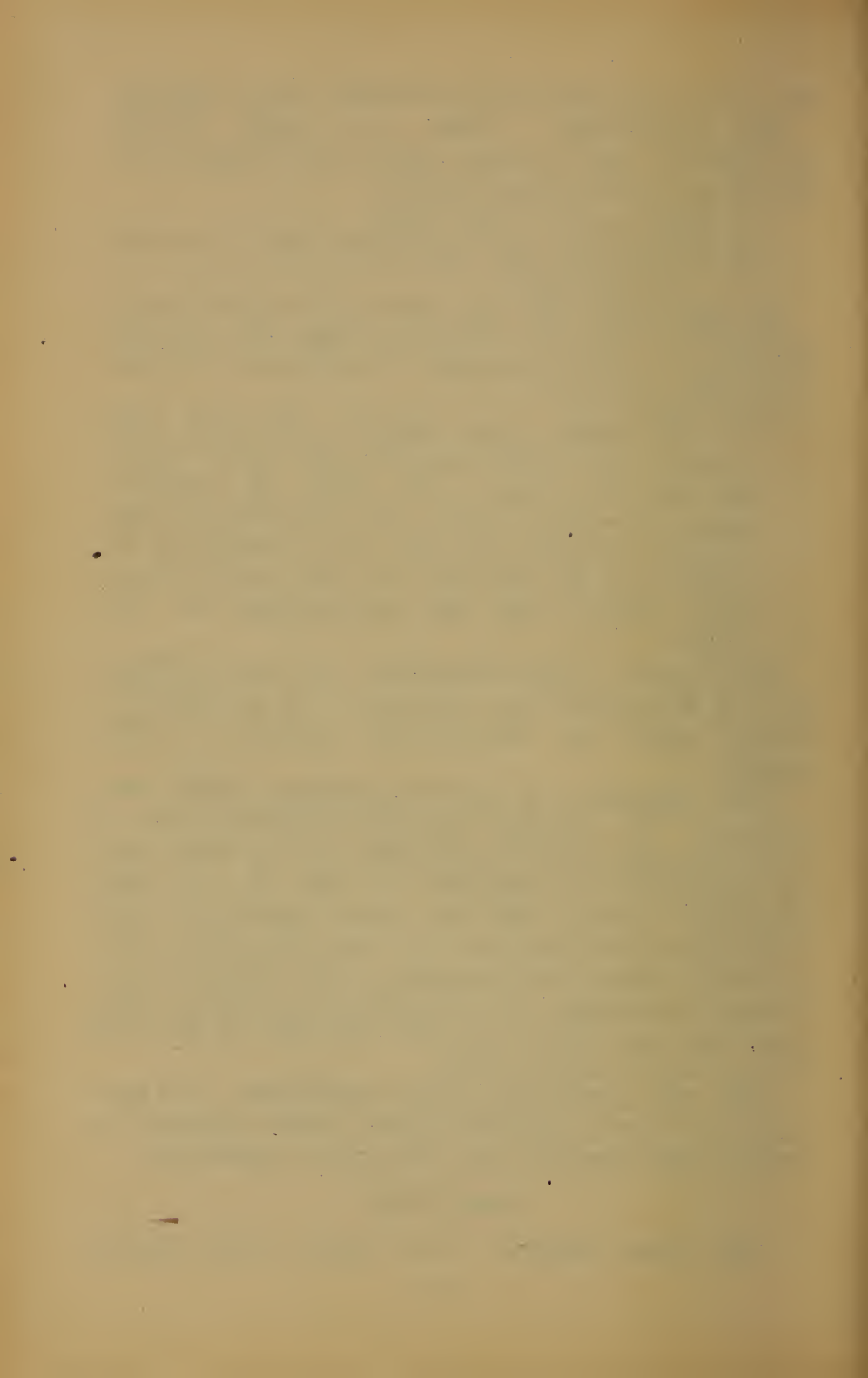
The Master, Chief Engineer, all Deck Officers and all Engineers are expected to be entirely familiar with the smothering system of their vessel.

254. Shipment of certain package goods prohibited. No naphtha, gasoline, benzine, etc., in cans, barrels, cases or packages of any kind, may be accepted for shipment on any of our tank steamers, except that on proper authority from the agent at an out-port or from the Marine Department, New York, samples of the different products in packages not exceeding ten gallons each, and not more than five such samples at any one time, may be transported.

255. No exemptions from compliance. All persons on board, including shore people making repairs, shall comply with the above regulations.

ROUTINE

256. Noon reports. The Master shall require



the following reports at noon daily while under way:

From Chief Officer: Position at 8 A. M. and noon by observation and dead reckoning.

From Chief Engineer: Distance run by the engines (average revolutions per minute and percentage of slip), consumption of fuel, and fuel on hand.

From Second Officer: Position at noon and 7 P. M. by observation and dead reckoning.

From Third Officer: Noon position by observation and dead reckoning.

The Master shall inform the Chief Engineer of the ship's latitude, longitude, distance made good, course, length of day, weather condition and current.

257. Bilge soundings and ullages. Soundings of bilges and ullages of cargo shall be taken daily and entered in a book provided for the purpose.

Engineroom sounding shall be taken daily and record kept by Chief Engineer.

258. Meals. The Master shall set the hours for serving meals. No meals shall be served in state-rooms except in case of sickness and then only by permission of the Master.

259. Inspections. The Master (or, in his absence, the Chief Officer), Chief Engineer and Steward shall make a weekly inspection of the cold storage chamber and other places containing food supplies, and require that they be kept sanitary and free from unsavory odors.

The Master shall frequently inspect the food served to the various messes and require that it be ample and appetizing.

260. Boat and fire station bills. The Master shall require boat and fire station bills to be posted thruout the ship.

261. National colors. WHEN ENTERING A FOREIGN COUNTRY, THE NATIONAL COLORS OF THE PORT BOUND TO SHALL BE DISPLAYED AT THE FORE-TRUCK. THIS IS AN IMPORTANT MATTER OF COURTESY, AND SHIPS FAILING IN THIS ARE LIABLE TO A FINE.

262. Quarantine flag. When arriving in a foreign port or in a home port from a foreign country, the Quarantine Flag shall be displayed until Pratique has been granted or permission obtained from the proper authority to haul it down. Failure to comply with this subjects the ship to a heavy fine.

263. Harbor regulations. The Master shall acquaint himself with the harbor regulations of all ports visited and shall not dock until such regulations are carried out. This applies in particular to quarantine and the handling of inflammable cargoes. EVERY EFFORT SHALL BE MADE TO PREVENT THE LEAKAGE OF OIL OVERBOARD.

COMPANY REGULATIONS

264. Port crew. When a ship is in port, all members of the crew on the ship's payroll are required to be on board during regular working hours, unless leave of absence has been granted with the Master's authority.

265. Leave in safe port. When a ship is at a wharf in a safe port, at least one licensed officer and two members of the deck crew, one licensed engineer, one oiler and one fireman shall be on board at all times. This number is considered a minimum, and additional members of the crew

may be kept on board at the discretion of the Master or Chief Engineer.

266. Alcoholic liquors. No alcoholic liquors are permitted on board the vessels of this fleet for any purpose or at any time. In this connection, evidence of the use of alcoholic liquor by any officer or member of crew, during working hours or while on duty, will be considered as "prima facie" evidence of having had alcoholic liquor on board. Any person in the employ of the Marine Department of the Standard Oil Co. (N. J.) who violates this order, or a ship's officer or member of the shore staff in authority who fails to report violations of this order that come to his knowledge, will be liable to dismissal from the company's service.

267. Smoking. Smoking is strictly prohibited, except in such places and under such conditions as are prescribed by the Master. Every one on board shall be informed of this regulation, and conspicuous signs shall be placed about the ship such as "No Smoking Allowed."

268. Slop chests. Vessels trading to foreign ports from the United States (except the Dominion of Canada, Newfoundland, the Bermuda Islands, the Bahama Islands, the West Indies and Central America), are required by law to be provided with suitable slop chests, which shall contain requisite supplies for those on board.

269. Master provides slop chest. The Master is required to provide a suitable slop chest before starting on any voyage requiring one, as set forth above. It should contain all wearing apparel necessary for a seaman, and a supply of tobacco.

270. Cost of purchasing paid by Company. The cost of purchasing the slop chest, if required, will be paid by the Company and the Master's account will be debited with same.

271. All articles intended for crew. No arti-

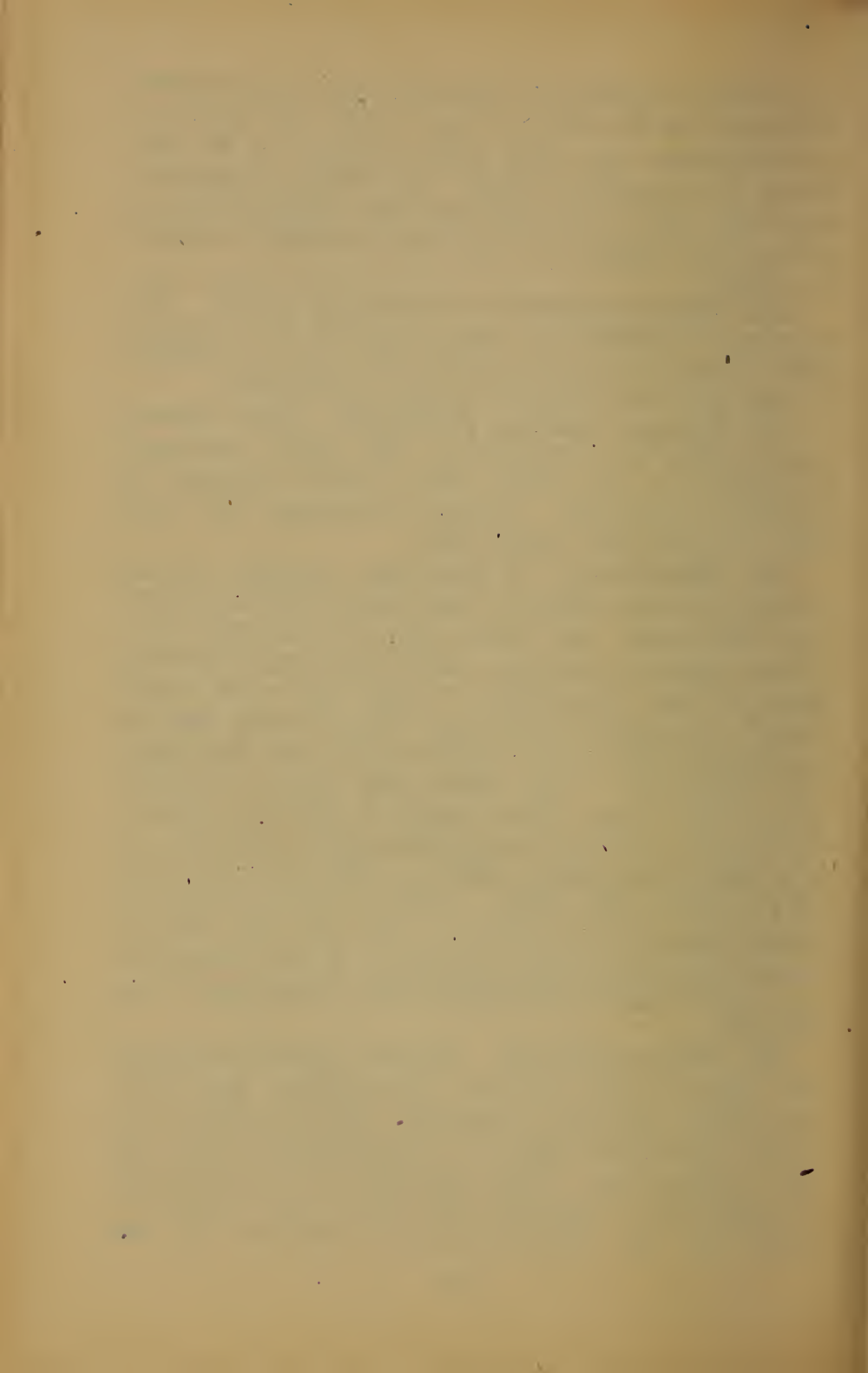
cles shall be carried in the slop chest except those intended for the crew of the vessel, and under no circumstances are slop chest articles to be disposed of to people on shore. All officers, engineers and crew are to be cautioned that they are on no account to dispose of slop chest articles to people on shore.

272. Master entitled to 10 per cent profit. The Master is entitled to make a profit of not more than 10 per cent on the wholesale value of articles at the port from which voyage commences.

273. Private trading prohibited. The Master shall notify all members of the ship's company employed on his vessel that private trading is strictly prohibited. Anyone violating this rule will be summarily dealt with.

274. Stowaways. A thorough search of the vessel is to be made for stowaways before clearing from port. In cases where stowaways have gotten aboard, the name, nationality, age and baggage of each stowaway, if any, are to be manifested. A supply of passenger lists is to be kept on board and copies to be made out for the Immigration Inspector. The stowaway is to be under guard and every effort made to prevent escape. Stowaways are not to be delivered to anyone except the Immigration Officer, without permission of the New York office. When the Immigration Officer boards the vessel, he will give the Master instructions as to the disposition of the stowaway. A receipt shall be obtained when stowaway is delivered.

275. Wives on board. When a vessel is in port, the wives of the Captain, Chief Officer, and Chief and First Assistant Engineer, will be allowed on board, provided there is no opposition from the port authorities. This privilege is not extended to relatives or children, but is strictly limited to wives of the aforementioned members of the



ship's staff. When under way from port to port, no person other than staff, crew or other officials shall be allowed on board without special permission from the Company.

276. Fumigation. The Master, Officers and crew shall do everything to facilitate fumigation and co-operate in every way with the shore authorities. The ship shall be prepared for fumigation under conditions required by law. A careful muster of all members of the crew shall be made before starting fumigation in order to be sure that none is left below.

277. Smuggling. Smuggling or the carrying of liquors or other contraband is strictly prohibited. Any one detected in these practices will be prosecuted according to the law and will be liable for any fine that may be imposed on the ship or owners, and will further be liable to dismissal from the Company's service.

LOADING AND DISCHARGING BULK CARGO

278. Responsibility for cargo. The responsibility for loading, discharging and carrying of cargo without undue loss and/or contamination rests with the Master. The Chief Officer, as his assistant, and under his supervision, looks after the details of loading, discharging and the preservation of cargo while on board ship.

279. Knowledge of ship's officers, etc. The Chief Officer, Second Officer, Third Officer and Pumpman are required to have a thorough understanding of loading and discharging cargo, including accurate personal knowledge of the use and location of all valves and pipelines.

280. Fire hazard and precautions. When loading or discharging bulk oil, the Master shall require every precaution to be taken to prevent fire. At this time it shall be remembered that the fire hazard is very great and no smoking or open

lights shall be permitted in the vicinity of the ship, and all fires not absolutely required shall be extinguished.

All fire-fighting apparatus shall be in place and ready for instant use.

281. Red flag to be displayed, or red light. When loading or discharging oil cargo, a red flag (International Code—Flag B) shall be displayed between foremast and mainmast in daylight, and a red light at night.

282. Loading preparations. Before arriving in port to load cargo, the cargo tanks and pipelines shall be cleaned, dried and freed of residue from last cargo, or water, when weather and other conditions permit cleaning of tanks.

283. Damage from mixing. A few barrels of oil of one kind, when allowed to mix with another, may spoil a whole tank and necessitate a re-running, which is costly and, at some receiving stations, impossible on account of lack of facilities. The danger of damage from mixing is greatest when loading high grade oils, such as lubricating oil, benzine, naphtha or refined oil.

284. Reporting ready for cargo. Before starting to load, the Chief Officer shall furnish the inspecting party with a statement showing that he and his assistants have examined all valves and connections and that the vessel is in every way ready to load cargo without danger of overflow. He shall have the tank tops raised and the port and starboard valves on empty tanks open, to facilitate inspection for the presence of water, dirt or other foreign matter in the tank or lines and the condition of valves and stems. After the inspector has passed the tanks, the lids are to be closed (but not dogged down), valves adjusted and **plug holes left open.**

285. Steam smothering lines. The Chief Officer shall assure himself that steam smothering

lines and valves are in good order before starting to load.

286. Testing signals to stop loading. The signal bells, gongs, telephones and loading lines shall be tested before starting to load. In testing and in all other instances, all signals are first to be answered by recipient, **except a signal to stop shall be acted on and then answered.**

287. Loading with ballast on board. If practicable, loading shall not be started while ballast remains in the ship. If absolutely necessary to start loading with ballast on board or any water, however small in quantity, remains in any cargo tanks, the division valves shall be tested for tightness. If it becomes necessary to discharge ballast from the vessel when partly loaded, the oil lines shall be blanked off, or, if this be impracticable, a watch shall be kept on the discharge line to detect the escape of oil.

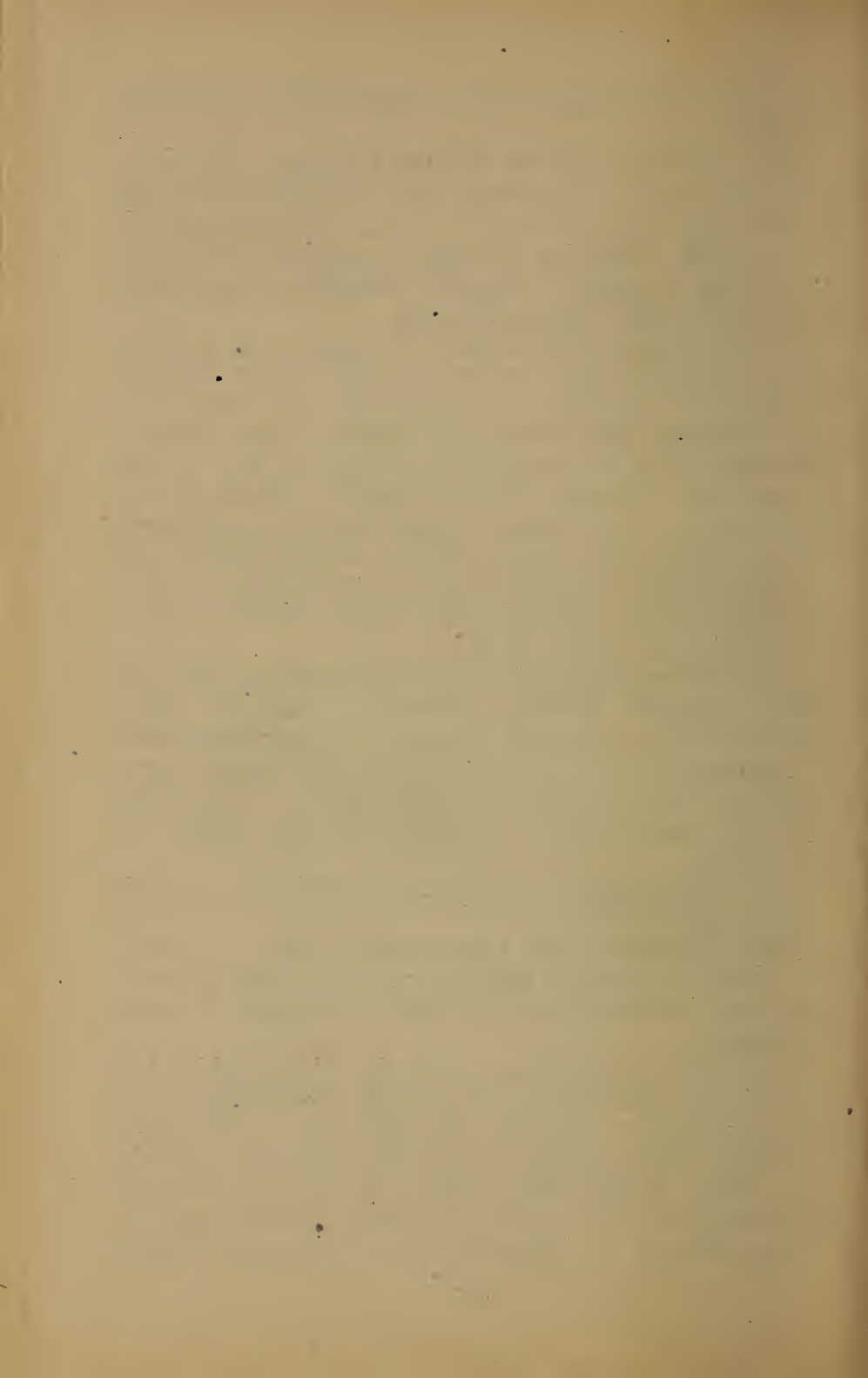
288. Connecting hose when at Mexican ports or other exposed berths. When at Mexican outports or other exposed berths, the hose shall **not** be fastened with nuts and bolts, but clamps provided for the purpose shall be used. A top maul shall be kept handy to knock clamps adrift, if necessary.

289. Slack tanks. Slack tanks shall be avoided where practicable.

290. Allowance for expansion of oil. In loading tanks, allowance shall be made for the expansion and contraction of oil due to change of temperature.

Tank steamer officers must be thoroughly familiar with the effect of change of temperature upon different grades of oil. An increased (higher) temperature causes an increase of volume of oil (expansion) and a decreased (lower) temperature, a decrease of volume (shrinkage).

The change of volume, due to change of tem-



NAME	RESIDENCE	DATE OF BIRTH	DATE OF DEATH	CAUSE OF DEATH	INTERVIEWER	REMARKS
ALBERT A. BROWN	CHICAGO, ILL.	1875	1945	HEART DISEASE	J. H. BROWN	...
JOHN D. SMITH	CHICAGO, ILL.	1880	1940	HEART DISEASE	J. H. BROWN	...
WILLIAM E. JONES	CHICAGO, ILL.	1885	1935	HEART DISEASE	J. H. BROWN	...
CHARLES F. WHITE	CHICAGO, ILL.	1890	1930	HEART DISEASE	J. H. BROWN	...
EDWARD G. BLACK	CHICAGO, ILL.	1895	1925	HEART DISEASE	J. H. BROWN	...
FRANK L. GREEN	CHICAGO, ILL.	1900	1920	HEART DISEASE	J. H. BROWN	...
ROBERT H. MILLER	CHICAGO, ILL.	1905	1915	HEART DISEASE	J. H. BROWN	...
DAVID K. WILSON	CHICAGO, ILL.	1910	1910	HEART DISEASE	J. H. BROWN	...
JOHN P. ANDERSON	CHICAGO, ILL.	1915	1915	HEART DISEASE	J. H. BROWN	...
WILLIAM R. THOMAS	CHICAGO, ILL.	1920	1920	HEART DISEASE	J. H. BROWN	...
CHARLES M. HARRIS	CHICAGO, ILL.	1925	1925	HEART DISEASE	J. H. BROWN	...
EDWARD J. CLARK	CHICAGO, ILL.	1930	1930	HEART DISEASE	J. H. BROWN	...
FRANK J. ROY	CHICAGO, ILL.	1935	1935	HEART DISEASE	J. H. BROWN	...
ROBERT E. CAMPBELL	CHICAGO, ILL.	1940	1940	HEART DISEASE	J. H. BROWN	...
DAVID L. PETERSON	CHICAGO, ILL.	1945	1945	HEART DISEASE	J. H. BROWN	...

COMPARATIVE TABLE OF SPECIFIC AND BEAUME GRAVITIES WITH EQUIVALENT WEIGHTS AND MEASURES

ONE TON OF 2240 LBS. equivalent to										ONE TON OF 2240 LBS. equivalent to									
Spec. Grav.	Degrees Beaume Grav.	Lbs. per bulk gal. (231 cu. in.)	Kilos per bulk gal. (231 cu. in.)	Lbs. per cu. ft.	Lbs. per 42 gal. bbl.	Cu. Meters	Cu. ft.	Am. gals.	42-gal. bbls.	Spec. Grav.	Degrees Beaume Grav.	Lbs. per bulk gal. (231 cu. in.)	Kilos per bulk gal. (231 cu. in.)	Lbs. per cu. ft.	Lbs. per 42 gal. bbl.	Cu. Meters	Cu. ft.	Am. gals.	42-gal. bbls.
1.0000	10	8.331	3.779	62.320	349.902	1.016	35.943	268.875	6.492	.7755	51	6.461	2.931	48.332	271.362	1.310	46.346	346.696	8.255
.9930	11	8.273	3.753	61.886	347.466	1.023	36.196	270.760	6.447	.7710	52	6.432	2.914	48.047	269.766	1.318	46.621	348.747	8.304
.9860	12	8.214	3.726	61.445	344.988	1.030	36.456	272.706	6.493	.7670	53	6.390	2.899	47.800	268.380	1.325	46.862	350.548	8.346
.9790	13	8.156	3.700	61.011	342.552	1.038	36.714	274.645	6.539	.7630	54	6.357	2.884	47.554	266.994	1.332	47.105	352.368	8.389
.9725	14	8.102	3.675	60.607	340.284	1.044	36.960	276.475	6.583	.7585	55	6.319	2.866	47.269	265.398	1.339	47.389	354.487	8.440
.9660	15	8.048	3.650	60.203	338.016	1.051	37.208	278.331	6.627	.7545	56	6.286	2.851	47.022	264.012	1.347	47.638	356.348	8.484
.9595	16	7.994	3.626	59.799	335.748	1.058	37.459	280.211	6.672	.7505	57	6.252	2.836	46.768	262.584	1.354	47.896	358.286	8.531
.9530	17	7.939	3.601	59.388	333.438	1.066	37.719	282.152	6.718	.7465	58	6.219	2.821	46.521	261.198	1.361	48.151	360.187	8.576
.9465	18	7.885	3.577	58.984	331.170	1.073	37.976	284.084	6.764	.7430	59	6.190	2.808	46.304	259.980	1.368	48.376	361.874	8.616
.9400	19	7.831	3.552	58.580	328.902	1.080	38.239	286.043	6.811	.7390	60	6.157	2.793	46.057	258.594	1.375	48.636	363.814	8.662
.9340	20	7.781	3.529	58.206	326.802	1.088	38.485	287.881	6.854	.7350	61	6.123	2.777	45.903	257.166	1.382	48.799	365.834	8.710
.9280	21	7.731	3.507	57.832	324.702	1.094	38.733	289.743	6.898	.7315	62	6.094	2.764	45.586	255.948	1.389	49.138	367.575	8.752
.9220	22	7.681	3.484	57.458	322.602	1.102	38.985	291.629	6.944	.7275	63	6.061	2.750	45.339	254.562	1.397	49.406	369.576	8.799
.9160	23	7.631	3.461	57.084	320.502	1.109	39.241	293.540	6.989	.7240	64	6.032	2.736	45.122	253.344	1.403	49.643	371.353	8.842
.9100	24	7.581	3.439	56.710	318.402	1.116	39.500	295.476	7.035	.7200	65	5.998	2.721	44.868	251.916	1.411	49.924	373.458	8.892
.9040	25	7.531	3.416	56.336	316.302	1.123	39.762	297.438	7.082	.7165	66	5.969	2.708	44.651	250.698	1.418	50.167	375.273	8.935
.8985	26	7.485	3.395	55.992	314.370	1.131	40.006	299.266	7.125	.7130	67	5.940	2.694	44.434	249.480	1.425	50.412	377.105	8.979
.8925	27	7.435	3.372	55.618	312.270	1.138	40.275	301.278	7.173	.7095	68	5.911	2.681	44.217	248.262	1.432	50.659	378.955	9.022
.8870	28	7.390	3.352	55.281	310.380	1.145	40.521	303.112	7.217	.7055	69	5.878	2.666	43.970	246.876	1.440	50.944	381.082	9.073
.8815	29	7.344	3.331	54.937	308.448	1.152	40.744	305.011	7.262	.7020	70	5.848	2.653	43.746	245.616	1.447	51.205	383.037	9.120
.8760	30	7.298	3.310	54.593	306.516	1.159	41.031	306.933	7.308	.6990	71	5.823	2.641	43.559	244.566	1.454	51.425	384.682	9.159
.8710	31	7.256	3.291	54.279	304.752	1.166	41.269	308.710	7.350	.6955	72	5.794	2.628	43.342	243.348	1.461	51.682	386.607	9.205
.8655	32	7.210	3.270	53.934	302.820	1.173	41.533	310.679	7.397	.6920	73	5.765	2.615	43.125	242.130	1.469	51.942	388.552	9.251
.8600	33	7.165	3.250	53.598	300.930	1.181	41.793	312.631	7.444	.6885	74	5.736	2.602	42.908	240.912	1.475	52.205	390.517	9.298
.8550	34	7.123	3.231	53.284	299.166	1.188	42.039	314.474	7.487	.6850	75	5.707	2.589	42.691	239.694	1.483	52.470	392.501	9.345
.8500	35	7.081	3.212	52.969	297.402	1.195	42.289	316.340	7.532	.6820	76	5.682	2.577	42.504	238.644	1.490	52.701	394.228	9.386
.8450	36	7.040	3.194	52.663	295.680	1.202	42.534	318.182	7.576	.6785	77	5.653	2.564	42.287	237.426	1.497	52.971	396.250	9.434
.8400	37	6.998	3.174	52.349	293.916	1.209	42.790	320.092	7.621	.6755	78	5.628	2.553	42.100	236.376	1.504	53.207	398.010	9.477
.8350	38	6.956	3.155	52.034	292.152	1.216	43.048	322.025	7.665	.6720	79	5.598	2.539	41.876	235.116	1.512	53.492	400.143	9.527
.8300	39	6.915	3.137	51.728	290.430	1.224	43.304	323.934	7.713	.6690	80	5.573	2.528	41.689	234.066	1.519	53.732	401.938	9.570
.8250	40	6.873	3.118	51.413	288.666	1.231	43.569	325.913	7.760	.6660	81	5.548	2.517	41.502	233.016	1.525	53.973	403.750	9.613
.8205	41	6.836	3.101	51.137	287.112	1.238	43.805	327.678	7.802	.6630	82	5.523	2.505	41.315	231.966	1.531	54.217	405.577	9.656
.8155	42	6.794	3.082	50.823	285.348	1.245	44.075	329.703	7.850	.6595	83	5.494	2.492	41.098	230.748	1.541	54.504	407.718	9.707
.8110	43	6.756	3.065	50.538	283.752	1.252	44.324	331.558	7.894	.6565	84	5.469	2.481	40.911	229.698	1.548	54.753	409.582	9.752
.8065	44	6.719	3.048	50.261	282.198	1.260	44.567	333.333	7.938	.6535	85	5.444	2.469	40.724	228.648	1.554	55.005	411.463	9.796
.8015	45	6.677	3.029	49.947	280.434	1.268	44.848	335.494	7.988	.6505	86	5.419	2.458	40.537	227.598	1.562	55.259	413.361	9.842
.7970	46	6.640	3.012	49.670	278.580	1.275	45.098	337.349	8.035	.6475	87	5.394	2.447	40.350	226.548	1.569	55.515	415.277	9.887
.7925	47	6.602	2.995	49.386	277.284	1.282	45.357	339.292	8.078	.6445	88	5.369	2.435	40.163	225.498	1.576	55.773	417.210	9.933
.7885	48	6.569	2.980	49.139	275.898	1.289	45.585	340.996	8.119	.6415	89	5.344	2.424	39.976	224.448	1.584	56.034	419.162	9.980
.7840	49	6.532	2.963	48.863	274.344	1.296	45.843	342.928	8.165	.6390	90	5.324	2.415	39.826	223.608	1.589	56.245	420.737	10.017
.7795	50	6.494	2.945	48.578	272.748	1.303	46.112	344.934	8.213										

perature, varies with different gravities of oil loaded, and therefore a table showing co-efficient of change of volume for change of temperature is given below:

Beaumé gravity of oil	Coefficient for change 1° F. in temperature
10 ° to 20°	.00035
20.1 " 30	.0004
30.1 " 40	.00045
40.1 " 60	.0005
50.1 " 55	.00055
55.1 " 60	.0006
60.1 " 65	.00065
65.1 " 70	.0007
70.1 " 75	.00072
75.1 " 80	.00075
80.1 " 85	.00078

Illustration:

Assume that after taking the ullage of a cargo tank of fuel oil, 21.4 beaumé gravity at 100 deg. Fahr. temperature, it is found that the tank contains 20,000 cu. ft. of oil and it is desired to determine how many cu. ft. will be in the tank at 90 deg. Fahr.

Looking at above table it is seen that the co-efficient for change of 1 deg. Fahr. is .0004; consequently for 10 deg. Fahr. change, the co-efficient will be $.0004 \times 10 = .004$.

The change of volume is 20,000 cu. ft.
(times) .004

80 cu. ft.

The volume of oil in tank will therefore be:

(minus)	20,000 cu. ft.	{ This is subtracted be- cause temperature is decreased. }
	80 " "	
	<u>19,920 " "</u>	

The table below is self-explanatory and will be of great value in determining the weight, gallons, barrels, etc., knowing the volume, temperature and specific gravity, which can always be readily obtained:

291. Topping off. Tanks shall be loaded to a predetermined ullage below that to be finally loaded, and "topped off" afterwards to height intended for passage. The speed of loading when "topping off" shall be reduced.

292. Summer tanks and their use. Summer tanks are used when a vessel is loading a light cargo to obtain desired draft. Where practicable, summer tanks should be loaded with oil of the same grade as the tank below. If avoidable, no naphtha, benzine or fuel oil should be loaded in a tank directly over refined or lubricating oil, or vice versa, on account of the danger of contamination, if leakage occur.

293. Loading summer tanks. If it be necessary to load different oils in the summer tanks than in the main tanks below them, it shall never be done until the summer tank has been tested by pressing oil in the main tanks well up into the expansion of the tank; if any leakage be noted in the summer tank, it should not be used for loading a different oil, but a summer tank should be selected which successfully passes the test outlined above.

Special care should be taken in loading summer tanks to prevent overflow on account of their small size.

294. Watch over tanks when starting to load. When starting to load, a close watch shall be kept on all tanks and compartments, in order to be sure that cargo is not leaking into wrong tanks.

295. Watch over tanks that are filled. When a tank is filled, a close watch should be kept to be sure oil is not leaking by valves.

296. Avoid closing valves against pumps. When closing off a valve, care shall be taken not to set up a pressure in line, which may result in breaking hose. The pump shall previously be

slowed down or stopped, unless oil can be run into another tank.

297. Loading over all. Loading over all is not recommended, and should only be undertaken as a last resort. Naphtha, gasoline, benzine or distillate shall never be loaded over all. If it becomes necessary to load over all, the following precautions shall be observed:

The lids of the hatches shall not be hooked back but kept only part open.

The top of the tank hatch shall be covered with tarpaulin.

The galley and fireroom doors shall be closed.

298. Prevent hose chafing. The Chief Officer shall exercise care in preventing the chafing of hose while loading or discharging cargo.

299. Plug holes and air vents. Plug holes shall be left open while loading, to allow gas and air to escape, and air vent valves **closed** on vessels having a common riser for air vent lines, and **open** on vessels having independent air vent lines. When loading is completed, plug holes shall be **closed**, and air vent valves **opened**.

300. Discharging preparations. All proper preparations shall be made for discharge before arriving in port; especially derricks for handling cargo hose; and clamps, nuts, bolts, spanners, etc., shall be gathered together.

301. Ullages and temperatures. The Chief Officer, accompanied by the shore officials, is required to take samples, ullages, and temperature before starting to discharge.

302. Tank lids down. The tank lids shall be closed, but not dogged down, during discharge, and the gas vent valves open.

303. Discharging mixed cargo. When discharging a mixed cargo, care shall be taken to see that valves and master valves are properly shut,

and the ullage of other tanks watched for leakage.

304. Inspection after discharge. After the vessel is discharged the Master shall obtain a certificate from the consignee's representative to the effect that all cargo is discharged or if not the depth of the oil forward, aft and amidships in each tank which contains oil which can not be discharged.

305. Hose to be blown out. When changing the grade of oil discharge, care should be taken to blow out the hose to prevent mixing.

306. Care of cargo while on board. The Chief Officer, under the supervision of the Captain, shall take all steps necessary to avoid loss or contamination of cargo while on board.

307. Daily ullages. Ullages of all tanks shall be taken daily, when practicable, and made a matter of record on forms provided for the purpose.

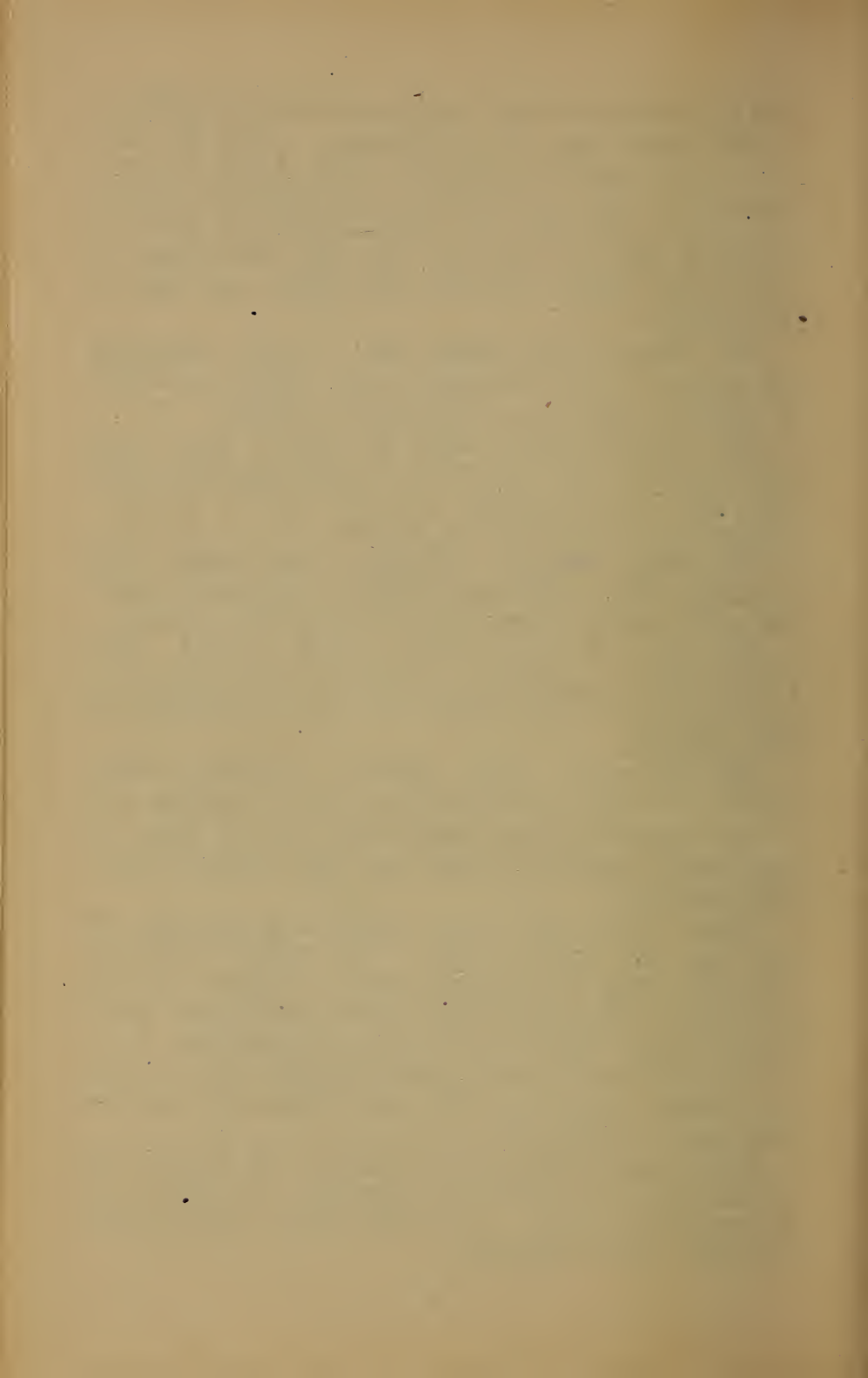
308. Care of cargo tanks.—Tank record. The Chief Officer shall keep a record of all leaks discovered in the cargo tanks, in a book provided for this purpose.

309. Pressure relief valves. Pressure relief valves on cargo discharge lines, on all vessels, are to be tested at least once every thirty days to determine whether or not they are in good working condition.

These valves are to be tested to a pressure of 100 lbs. per square inch. The valves must so function that immediate relief is given to the pressure in the cargo lines by the automatic opening of these valves at the above pressure.

You will make note in your log each time valves are tested, together with any comments on the operation of the same.

Relief valves are to be blanked off during the discharging or loading of Naphtha, Gasoline and Refined Oil cargoes. At other times these valves must be free to operate.



Careful inspection must be made each time a loading or discharging hose bursts, to see whether or not the relief valve has opened, and a complete report made of each case.

310. Inspection for leaks. When wiping up tanks preparatory to receiving cargo, slight leaks are often discovered, and, when possible, temporary repairs should be effected by the ship's staff until the ship is in dock and permanent repairs can be made.

311. Precaution before attempting emergency repairs. Before attempting to work in a tank, it shall be well steamed out and ventilated, to be sure that all gases are out. A copper maul shall be used in order to avoid making sparks while working in tanks.

312. Steaming and cleaning tanks. It is a most important duty of the Master and Deck officers to have the tanks clean, dry and ready for cargo upon arrival at loading point. The degree of cleanliness required varies with the grade of oil to be carried, the most rigid requirements being for light or refined oils, and lubricating oil, as the damage due to mixing or contamination is greatest with these grades of oil. In case of fuel oil and heavy oils, the requirements for cleanliness are not as severe, but the tanks must be free of water and wiped out.

To steam out the tanks the tank lids are closed, but no dogs set up, and the plug caps reversed to prevent pressure building up.

313. Cleaning pipe lines. In the process of cleaning tanks, care should be taken to clean out all pipe lines.

314. Chemist's test. Before the vessel is permitted to go in dry dock, or have repairs made to tanks, it is necessary to obtain a chemist's certificate that tanks are free of gas.

315. Slops. No slops from tanks are to be pumped overboard when in port, in navigable rivers, or within the three-mile limit.

TRANSPORTATION OF MOLASSES

As it is possible that vessels of this Company may be called upon to transport molasses, a brief description of methods of handling this cargo is given below.

316. Cleaning tanks. If the vessel has been carrying bulk oil and is directed to prepare to carry molasses, the tanks must be cleaned as follows:

Steam out tanks from 10 to 24 hours; the length of time varies with the grade of oil previously carried. If previous cargo was light oil, ten hours' steaming is usually sufficient; if previous cargo was heavy crude, 24 hours is necessary.

After steaming, the tanks must be thoroughly washed down with sea water thru a hose. Care must be taken to wash all oil out of corners. All pipe lines must be thoroughly cleaned by flushing with water. All sediment or oily water must be bailed out of tanks.

317. Loading. Usually molasses is loaded over-all; that is, the molasses is delivered into the top of one tank and equalized in other tanks thru pipe lines. Molasses is much heavier than oil; (it weighs about $11\frac{3}{4}$ lb. per gallon), so that the average oil tanker will carry full deadweight of cargo in about $\frac{2}{3}$ of the main tanks. Therefore, careful attention should be given to loading the vessel in order to distribute the weight of cargo, so that the least strain will be on the vessel.

All air vents from tanks in which molasses is loaded should be opened and kept open during entire voyage.

318. Heater coils. Heat should never be

turned on heater coils during transportation nor at any other time.

319. Discharging. If holes in strainer boxes (rose boxes) are less than $\frac{1}{2}$ in. in diameter, the plates should be removed, as heavy molasses will not flow freely thru holes of smaller diameter. It is essential that the vessel be kept in such trim that molasses will flow thru the pipe lines towards the pumps when discharging molasses, as it is difficult to hold suction when pumps have to draw molasses "up-hill."

It is well to keep one of the main tanks near pumproom full while discharging other tanks, so that pumps can be primed from it in case suction is lost in a tank at a distance from the pumproom. This means of priming the pump is very necessary when molasses is below pipe line, as the pumps often lose their suction under these conditions. In case molasses is very heavy, live steam is used to warm up the cargo, but this should never be resorted to without the consent of the consignee. If permission be received from the consignee to use steam, the following is the procedure:

Obtain a length of pipe 1 in. to $1\frac{1}{2}$ in. in diameter, fit a tee on the end and a length of pipe from 2 ft. to 3 ft. long in each opening of the tee, fit caps on the ends of these tee pipes, and drill about $6\frac{1}{4}$ -in. holes in them. Lower the tee end of pipe as near the suction as possible, connect the other end to steam supply and turn on steam.

This will soften the molasses and facilitate discharging cargo.

Never turn steam on heater coils as the molasses will be burned and solidified and necessitate the use of picks and shovels to discharge cargo.

320. Scouring tanks to load oil after carrying molasses. In case the vessel, after carrying molasses, is required to load oil, the tanks should be

thoroughly washed out with salt water thru a hose, taking special care to clean the cracks and corners of the tanks. The pipe lines and pumps must be thoroughly washed out.

The above method should be used whether the vessel is to load refined oils or crude oils, except that one good washing is usually required for crude oils, and six or more washings in case of refined oils.

No steam should be used either in heater coils or steaming-out lines.

GENERAL

321. Report when visiting a port out of usual trade. When visiting a port out of our usual trade, the Master shall make a report of the facilities available. The following details are especially desired: description of approaches, depth of water, method of connecting up hose, size of hose used, whether reducing pieces are required or not, if so, what size; if possible, a sketch showing the wharf and depth of water around steamer at low tide and the shore pumping and/or receiving capacity per hour; distance of shore tanks from ship, elevation of shore tanks, size and also any suggestions of the Master that will tend to facilitate loading and/or discharging of cargo.

322. Night quarantine inspection, Panama Canal. Vessels arriving are permitted by Executive order, dated March 2, 1920, to obtain quarantine during the night at the Panama Canal; therefore you will, whenever weather and other conditions permit, obtain quarantine upon arrival at either Balboa or Colon, and proceed thru the Canal without awaiting daylight.

323. Rules in Mexico. Our Company operating in Mexico is not allowed to dispatch goods which are not our personal property, thru the Aduana, and for every violation of this law we are liable to

a fine of from ten dollars to five hundred dollars.

324. Gratuities or commissions. Under no circumstances are the Master, Mates, Engineers or any other members of the crew allowed to accept a gratuity from any firm, supplier or contractor.

325. Courtesy. Officers and crew shall at all times be polite and courteous in their dealings with public officials and shore authorities and workmen.

326. Reporters and press agents. Reporters and press agents shall be referred to the Company's officials for information.

327. Promotion of personnel. The Company desires wherever practicable to fill vacancies at the top from men already in the service of the Company. It is, therefore, to the best interest of officers and men to endeavor to obtain licenses for next higher rank, so that they will be available when a vacancy occurs or a higher position is otherwise available.

328. Taking examination. The Company will co-operate in every way to facilitate the taking of necessary examinations to get the license desired.

329. Report of conduct. The Reports of Conduct will be given great consideration in selecting men to fill positions of higher rank, so that Masters and Chief Engineers must exercise their best judgment in filling out these reports.

330. Items of interest for "The Lamp." It is requested that items of interest, especially photographs of ships, loading and discharging docks, etc., be forwarded to the Operations Division, Standard Oil Co. (N. J.), Marine Department, 26 Broadway, New York, for publication in the Standard Oil Co. (N. J.) magazine, "The Lamp."

331. Annuities plan, bonus system, stock acquisition and life insurance plans shall be given publicity on board the ship in order that all may be informed of the benefits.

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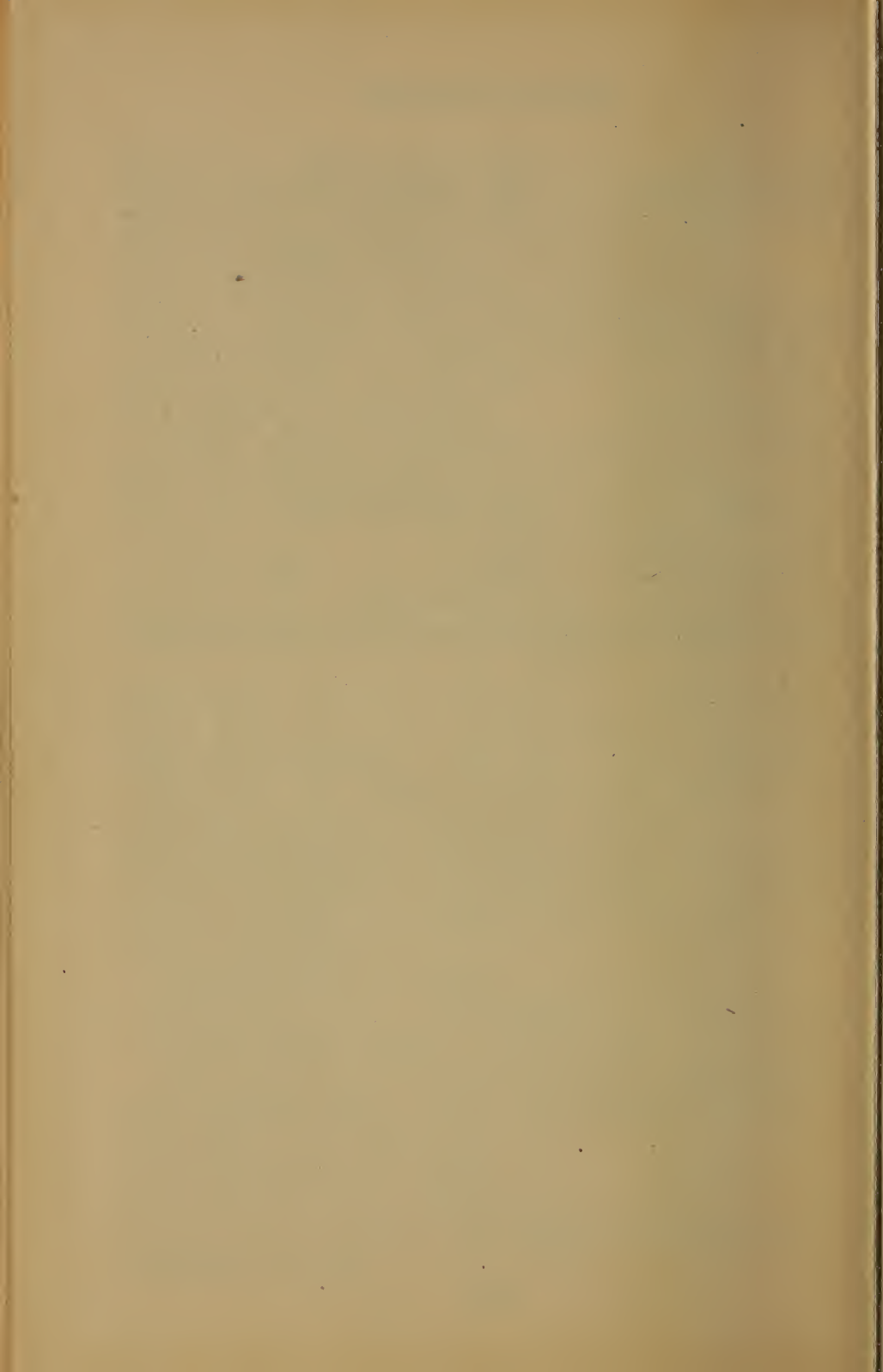
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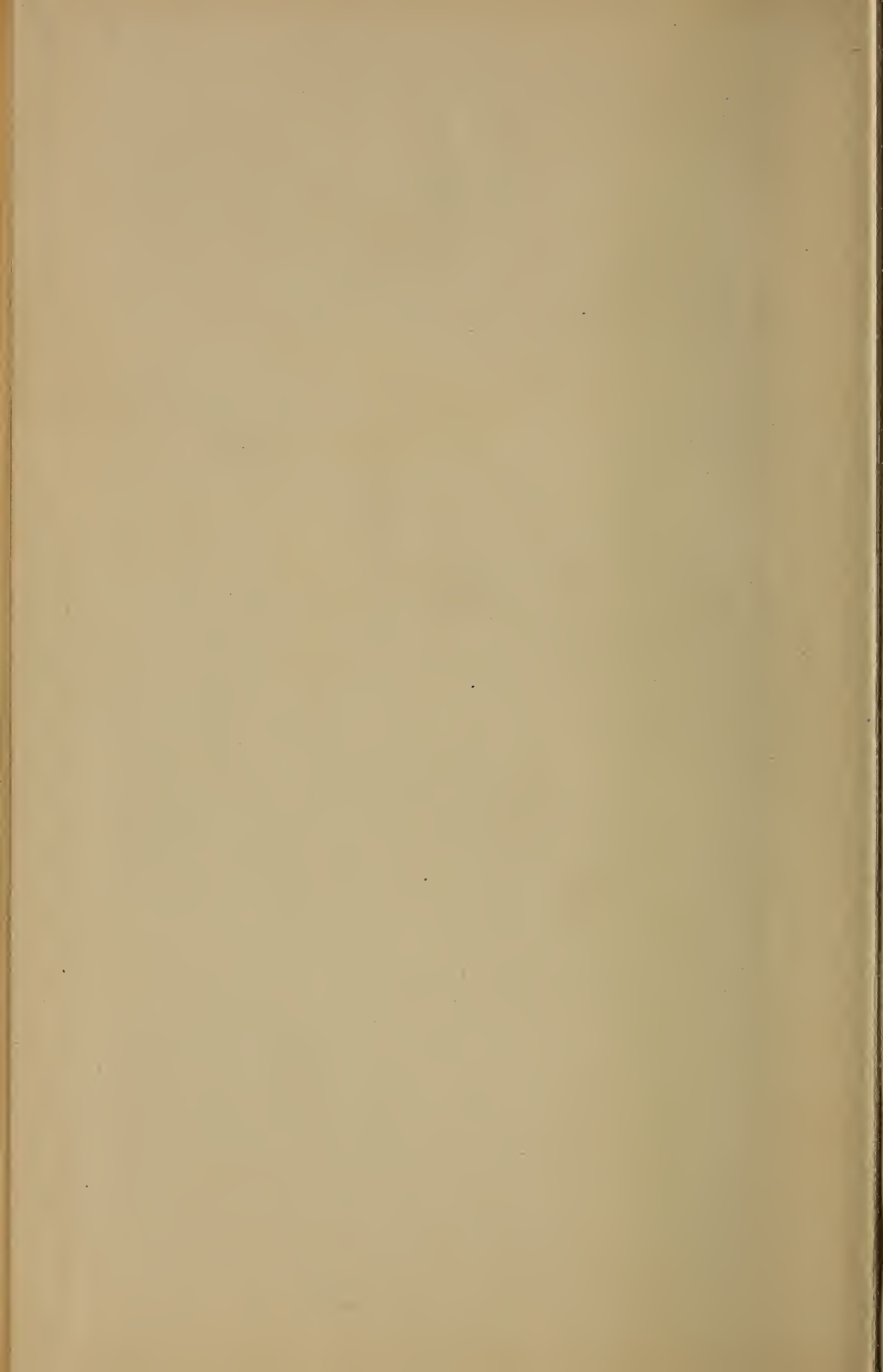
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